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**AN EXAMINATION OF CAREER GUIDANCE PROGRAMMING ON
ELEMENTARY SCHOOL STUDENTS' VOCATIONAL DEVELOPMENT**

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ABSTRACT

The process of career development is life-long (Super, 1980). Childhood marks the beginning of that process. Although research acknowledges the importance of these formative years, there is a disconnection between theory and practice in elementary school counseling settings. The American School Counselor Association highlights three major domains inclusive of comprehensive school counseling programs. These include academic, personal/social, and career development for all students in kindergarten through twelfth grade. According to research, however, developing ways to integrate career development into school counseling curriculum is lacking. The purpose of the following investigation is to examine the use of an online career guidance intervention in comparison to a traditional career guidance intervention to measure the effects each one has on the career development progression of fourth and fifth grade students as measured by the Childhood Career Development Scale. Using a pretest-posttest comparison group experimental design, students were randomly assigned to either the experimental group (online) or the comparison group (non-online) for 45 minutes per week for a period of four weeks. Results showed significant interactions between group and time for two of the four subscales examined in the study. For the within group effect, three of the four subscales revealed significant changes across time. Research implications and best practices for infusing career interventions into school counseling curriculum are discussed.

Keywords: career development, children, intervention, school counseling

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Go forward and make your dreams come true.” ~ Ralph Waldo Emerson

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CHAPTER 1

INTRODUCTION

Few decisions in life are more personal than a career choice (Niles & Harris-Bowlsbey, 2009). Magnuson and Starr (2000) assert that career awareness in childhood provides a foundation for effective life career planning. Researchers believe career development starts as early as the preschool years (Super, Savickas, & Super, 1996; Gottfredson, 1999). Therefore, the process of career development is regarded as a lifelong journey with earliest beginnings rooted in childhood.

Although the importance of experiences in childhood on later career decisions is recognized, we are in the mere infantile stages of how to best apply the knowledge gleaned from research to actual practice (McMahon & Watson, 2008). Researchers and practitioners have been rightly criticized for their disregard of this developmental age group (Hartung, Porfeli, & Vondracek, 2008). Schultheiss (2008) further asserts that extant empirical literature on childhood career development is sparse and fragmented in comparison to research regarding later adolescent and adult career development. Furthermore, getting teachers and administrators to buy into the idea of making career development a focal point in the elementary schools is still a long way off (Solberg, Howard, Blustein, & Close, 2002). In the midst of the current No Child Left Behind Legislation, school systems are focused on data driven decision making for score improvement on statewide exams at the exclusion of other learning criteria (Solberg, Howard, Blustein, & Close, 2002; Eliason & Patrick, 2008). Thus, career development has been neglected. Because of these identified deficits in attention to career development, there are significant limitations in this area of research.

The American School Counselor Association (ASCA), which is the national professional association governing school counselors across America, recommends a comprehensive, proactive, and preventative model for school counseling. The association highlights three major domains that school counselors must be cognizant of as effective practitioners in meeting the diverse needs of student clientele in the 21st century (ASCA, 2005). These domains include academic development, personal/social development, and career development for all students in kindergarten through twelfth grade (ASCA, 2005).

Although ASCA gives equal emphasis to all three domain areas that encompass the delivery of a comprehensive school counseling program, the career component is often absent during the elementary years with the other two domains taking precedence in school systems (Wood & Kaszubowski, 2008). Some states have adopted their own standards for career development; however, few, if any, recommendations are available to counselors, teachers, and/or administrators in terms of best implementation practices (Wood & Kaszubowski, 2008).

Career Education and Work Standards (CEWS) exist as part of the State Board of Education's regulations of required education for all students within the state of Pennsylvania. These standards address four areas of knowledge that include career awareness and preparation, career acquisition (getting a job), career retention and advancement, and entrepreneurship.

The CEWS reflect the complexity and sophistication students experience as they progress through school. The CEWS describe what students should know and be able to do at various grade levels. The CEWS specifically address Grades 3, 5, 8, and 11 with respect to the above four areas. Although these skills are identified in the standards, it is up to individual school districts to decide how they should be taught or implemented. Because there are limited resources providing suggestions in terms of how counselors or other school personnel can add

specific career intervention components to their existing programs, uncertainty remains in terms of best practices (Wood & Kaszubowski, 2008).

Palladino (2005) examined equity, social justice, and intrinsic motivation as key concepts in promoting social action initiatives aimed at improving academic achievement and expanding future career options and noted that career interventions provide an ideal venue for prevention efforts in elementary schools. Even so, school counselors are still presented with challenges and are often forced to weigh the domain of academic development significantly more heavily than the domains of personal/social development and career development. In some school districts, it is not uncommon for school counselors to completely neglect the latter two domains due to lack of time and resources available (Wood & Kaszubowski, 2008). As child development specialists, it is important for school counselors to recognize child career development as an integral part of the lifespan with implications for later adult work.

Since proactive, preventative efforts comprise the majority of mission statements of elementary school counseling programs, the career informational process is one that largely occurs in whole group instruction with students in the form of classroom guidance (ASCA, 2005). School counselors may employ interventions such as career games, children's stories about occupational choices, and discussions regarding the role that academics play in admission to colleges and universities (Schultheiss, 2005).

Few studies examining child career development evaluate the efficacy of specific career interventions or provide evidence of best practices. Such studies are important in guiding counseling practitioners to select interventions that children will both learn from and enjoy as well as provide important linkages to the world of work. Lapan (2004) recommended five characteristics for effective career counseling interventions across the K-16 years. These

included individualized interpretations and feedback, building support networks, modeling, providing information about the world of work, and written exercises. These characteristics are applicable to elementary and middle school counseling settings. Miller (1989) discussed the use of descriptive occupational counseling activities and the need for them to be supplemented by activities reinforcing career related competencies such as planfulness and autonomy in an effort to increase children's self-awareness.

Gibson (2005) examined the use of a genogram as an intervention tool in career counseling with elementary, middle, and high school populations. The genogram, or career family tree, may be integrated into developmental guidance programs and tailored to the individual child within school settings. This technique allows students to gain competencies in skills such as identifying different types of work, recognizing workers in different settings, categorizing careers in the community, and highlighting gender similarities and differences in work choices. Children also gain insight into the world of work and skill sets of family members, which has shown to have a powerful influence on later career decision-making (Gibson, 2005). The visual representation of this technique is particularly useful and appealing for elementary aged populations. The career family tree serves as a beginning tool for increasing children's career awareness.

As indicated by the above studies, traditional guidance lessons focusing on career awareness and exploratory behavior with elementary school children has received some research attention even though there is a lack in delivery of such programs within public elementary school systems in America (Eliason & Patrick, 2008). Although ASCA includes the career domain as one of the three main components of a comprehensive school counseling program, it

is often difficult to determine how much and to what degree career initiatives can be implemented pragmatically.

Because of the separation between theory and practice, some school districts have turned to online, web-based, programs to deliver career guidance to children. This is especially true in schools with shrinking budgets and shortages of staffing. Yet, schools have an inherent desire to remain progressive in education. Computer-based career guidance may be an ideal option for this endeavor because it tends to be student initiated and student led with little direction needed from an adult. There is literature that exists regarding the valuable integration of technology into career counseling and how career professionals can enhance the services they provide to clients (Glavin, Smal, & Vandermeeren, 2009). Simple techniques can have a significant impact on how students feel about career counseling (Glavin, Smal, & Vandermeeren, 2009). There have been a variety of technologies available to career counselors since the explosion of the internet in 1995 (Glavin, Smal, & Vandermeeren, 2009). However, similar to the research existing in the career field, much of the technologies have focused on young and middle aged adults with little to none focusing on the career needs of children.

Statement of the Problem

Background. It is estimated that 27% of 4-6 year old children use a computer daily (Oblinger & Oblinger, 2005). With more and more children attracted to and engaged in online learning experiences, career interventions via the web may become more popular as technology continues to advance. Although web based learning in school systems has been extensively studied (in subjects such as math and reading), web-based learning related to career development has not. Because of the lack of research available, schools may have difficulty substantiating the purchase of new career resources and the technology to support it when there is a lack of

evidence to prove it adds value to the total educational program. In a study by Whiston, Sexton, and Lasoff (1998), individual career counseling was found to be the most effective and efficient treatment however, computer interventions were found to be the most cost effective.

Furthermore, cost-effective career interventions may become more attractive during critical financial periods within American history.

The primary problem of this study is that children in elementary school need more career development opportunities to explore their skills, abilities, and interests. The secondary problem is that there is a gap in the literature, particularly with web-based learning systems and online materials used to augment career awareness with elementary-aged children. Because web-based career counseling interventions with children have not been studied, it is difficult to determine whether such interventions may be inferior, superior, or comparable to standard guidance lessons.

Research Questions

In the current study, the following research questions will be examined: 1.) Will there be changes within participants' beliefs and attitudes regarding career development and awareness on the CCDS from pre to post based on type of intervention received? 2.) Will there be differences between participants' beliefs and attitudes regarding career development and awareness on the CCDS from pre to post based on type of intervention received? 3.) Will changes in scores on the CCDS from pretest to posttest be dependent upon the interaction of time and type of intervention?

Hypotheses

There are four hypotheses in this study, which will be clumped together into one null hypothesis. The null hypothesis is: H_0 : There will be no significant interactions between

treatment (online vs. non-online) on mean scores of the four subscales (information, curiosity/exploration, locus of control, and interests) of the CCDS for fourth and fifth grade students.

Significance of the Study

The purpose of the present study is to determine how children develop career awareness with respect to the interventions provided in elementary school counseling settings. Specifically, this study will examine the effects of an online career guidance program in comparison to a traditional, or typical, career guidance program in meeting the career development needs of elementary school students. Effective career interventions offer benefits such as college readiness skills, vocational awareness, career choice satisfaction, and fulfillment as a working adult (Wood & Kaszubowski, 2008). Research by Blackhurst and Auger (2003) suggest that by fifth grade, children have developed the conceptual framework for understanding vocational preparation requirements but are inaccurate in applying that framework to specific occupations. In addition, they found that students overestimate the need for college and their own likelihood of attending. These findings suggest that children need guidance to provide accurate career information and dispel myths surrounding college and vocational preparation.

Limitations

There are several limitations that should be noted in this study. First, because the CCDS is a self-report measure of career awareness, children may have only a limited awareness of their career behaviors. Additional research may benefit from the use of qualitative methodologies (e.g., observations, interviews, focus groups) to assess the career development of elementary aged students. Although it is noted that career exploration begins in childhood, it is possible that

there may be optimal periods within childhood to address career decision-making skills based on children's cognitive, verbal, and written capacities (Schultheiss, Palma, & Manzi, 2005).

A second limitation in this study is that only fourth and fifth grade students were sampled. Because Super (1990) proposed a lifespan-lifespace theory beginning in preschool, it is possible that the findings in this study may be limited to middle and later childhood. Therefore, subsequent research should focus on examining career exploration and developmental changes across a broader span of the elementary years since past research has focused mainly on later childhood and adolescence (Wood & Kaszubowski, 2008). Furthermore, it may be warranted to study elementary aged children longitudinally to determine developmental changes children experience across the years of childhood. Past research (Helwig, 2004) has indicated that there are significant changes in career behaviors across a ten-year period as children mature from childhood into adolescence.

Thirdly, it will be difficult to completely equalize the two groups with respect to personality differences among facilitators, instructional styles, and curriculum differences within the two treatment groups. Although the goal is to maintain consistency in terms of the amount of human interaction each group receives by the instructor, differences will still exist and may present as possible confounds to this research.

A fourth limitation is the limited sample size and demographics of the elementary school children within this study. Future research may consider sampling children from diverse geographic regions including urban, suburban, and rural settings to better determine the influence that geographic region has on career awareness and behaviors. Children sampled from other regions of the world would help in determining the effects that career guidance interventions have on children cross- culturally. Selecting students representing various ethnicities and

socioeconomic levels would also be helpful in generalizing the results of this study to the larger population of elementary aged students both within the United States and abroad.

Assumptions

It will be assumed that children's responses on the measures of this study indicate the true beliefs, ideas, and feelings that are being assessed. It will also be assumed that assessments will be scored properly and data will be reported appropriately.

Definitions

For the purposes of this study the following operational definitions were used:

Child career development: This stage of development occurs from approximately age 4 through 15 and is marked by career exploration and awareness that takes place through self-expression and understanding of oneself in relation to the world of work.

Web-based career guidance intervention: This intervention consists of a specific web-based computer program, called Kuder Galaxy, in which children Play, Watch, Do, and Explore through a series of games, videos, and activities to promote career awareness.

Typical career guidance intervention: This intervention consists of a guidance program that is considered customary, or usual, of the kinds of career guidance lessons that are commonly encountered in elementary counseling settings by utilizing curriculum that is routinely purchased for that purpose.

Planning: Career dimension used to assess planfulness for one's future.

Self-concept: Career dimension used to measure self-esteem and self-efficacy.

Information: Career dimension used to measure knowledge of various occupations.

Interest: Career dimension used to help children identify preferences.

Locus of control: Career dimension used to measure personal attribution.

Curiosity/Exploration: Career dimension used to assess exploratory behaviors.

Key Figures: Career dimension used to assess individual career influences.

Time Perspective: Career dimension used to measure time management.

CHAPTER 2

REVIEW OF LITERATURE

No studies of web-based career guidance interventions were found in the review of the literature pertaining to career development with elementary school students. There are, however, select studies that have examined the following: (a) typical career guidance interventions in elementary settings, (b) differences in career preferences based on gender, (c) differences in career preferences based on ethnicity, (d) web-based learning systems for academic subject areas. The review of literature will begin by addressing the historical and theoretical background of child career development. Contemporary literature will later be presented followed by factors associated with children's advanced career development and awareness.

Historical and Theoretical Background of Child Career Development

Career development in childhood has not been a primary concern in much of the literature that exists pertaining to this topic. However, a few select career theorists have recognized children as key figures in including them in a lifespan perspective of career development. Donald Super's well known lifespan developmental career theory posits that the choice of an occupation is essentially the implementation of a self-concept (Super, 1990). Because the topic of self-esteem is so heavily focused on during the elementary years, the importance of Super's work, particularly in acknowledging that career development is a lifelong process beginning with the growth stage of development (ages 0-15), becomes of paramount importance in examining child career development (Super, Savickas, & Super, 1996).

The growth stage in Super's theory is comprised of three substages: Fantasy (4-10 years) consisting of needs dominating career fantasies in which children have little reality orientation; Interest (11-12 years), emphasizing that preferences (likes/dislikes) are the major determinants of

aspirations and activities; and Capacity (13-14 years), in which abilities, training, and job requirements are considered and realistically incorporated. Four developmental tasks are delineated within the growth stage (Super, Savickas, & Super, 1996) and these include becoming concerned about the future, increasing personal control over one's life, developing an awareness of the importance of achieving in school and work, and acquiring competent work attitudes and habits. Super's theoretical model of career development in childhood consists of nine dimensions. These include: *curiosity*, *exploration*, *information*, *key figures*, *interests*, *locus of control*, *time perspective*, *self-concept*, and *planfulness* (Super, Savickas, & Super, 1996). These dimensions will be further defined for explanatory purposes. *Curiosity* involves inquisitive thoughts and behaviors (e.g., "I am curious about the things I learn in school"). *Exploration* consists of learning about a broad range of skills needed for careers (e.g., "I read books to learn new things"). *Information* is the awareness of the importance or use of occupational information (e.g., "I want to get more information about jobs"). *Key figures* is the acknowledgement of role models or people individuals look up to (e.g., "I want to do the same job as someone I look up to"). *Interests* include an awareness of likes/preferences (e.g., "I know what sports I like to play"). *Locus of control* is the degree to which one feels an internal sense of control over one's life (e.g., "I have control over how much I study for tests"). *Time perspective* is the focus on future career desires (e.g., "I think a lot about what I will be when I grow up"). *Self-concept* is an awareness of self-knowledge (e.g., "I know what type of person I am"). *Planfulness* is an awareness of the purpose of planning (e.g., "It is important to plan for the future"). As vocational choice progresses, children shift from basing their career dreams on fantasy and imagination to the types of activities and tasks that are of interest to them (Howard & Walsh, 2011).

Career development appears to run parallel to child development (Magnuson & Starr, 2000). Super's theory has conceptual similarities with earlier known psychological theories such as Erikson's psychosocial stages of development, Piaget's stages of cognitive development, and Freud's psychosexual stages of development. Perhaps, then, the most significant contribution of the work of Super is the acknowledgement of such stages within the realm of career development leading to the concept known as vocational maturity, which means adequately coping with appropriate developmental tasks at appropriate times (Niles & Harris-Bowlsbey, 2009). Because it is believed that the largest percentage of vocational development takes place in the exploration and establishment stages, it is theorized that the majority of work related to careers thereby occurs during the ages of 15-45 (Niles & Harris-Bowlsbey, 2009). Thus, there has been a tendency to focus empirically on career development in adolescents and adults. Although Super was one of the career pioneers to acknowledge that career development begins in childhood, the majority of his research and of those that followed focused largely on later developmental stages as well as elaborative concepts and tools such as the Life-Career Rainbow, The Career Decision Tree, and the Career Development Inventory (Niles & Harris-Bowlsbey, 2009). These tools may be better suited to the cognitive capacity of older adolescents and adults, rather than children.

To date, there is only one extant measure of childhood career development (Child Career Development Scale, or CCDS), with supportive psychometric information to measure the career progress of children (Schultheiss & Stead, 2004). Although Super's ideas of including children in the career development process is noteworthy, his ideas fall somewhat short of further delineation of the importance of early childhood experiences and the impact they have on later career decision making. Childhood opportunities and experiences arouse curiosities, fantasies,

interests, and capacities as children use play to construct future selves to be realized in work and other roles (Hartung, Porfeli, & Vondracek, 2008).

Super is credited as the theorist who proposed the life-span, life-space career developmental model with recognition of childhood processes, however, Linda Gottfredson proposed that vocational choice is a search for a life career that fits one's self-concept both socially and psychologically (Gottfredson, 1996). She proposed the circumscription and compromise theory, which includes four developmental processes that guide the person-job matching process during the first two decades of life (Gottfredson, 1996). Gottfredson's theory more adequately gives attention to the childhood processes that were absent in Super's theory. These processes include cognitive ability (cognitive growth), self-directed development of self (self-creation), elimination of least favored vocational alternatives (circumscription), and accommodation of constraints on implementing the most favored alternatives (compromise). Children exhibit intuitive thought in the preschool years, concrete thought in the elementary years, and abstract thought in the adolescent years (Gottfredson, 1999).

In circumscription, a child's early vocational choice proceeds through the process of elimination (Gottfredson, 1996). Children become aware of differences in sex type, prestige, field of work, and then rule out certain sectors of work deemed unacceptable (Gottfredson, 1996). Gottfredson (1996) thereby developed four stages beginning at approximately age 3 through age 14 and above. The following stages include: Stage 1: Orientation to Size and Power (Ages 3-5). In Stage 1, children classify people as big and powerful versus little and weak. They report desires of being animals or fantasy characters when they grow up. In Stage 2: Orientation to Sex Roles (Ages 6-8), children make simple distinctions among people and jobs based on concrete, visible attributes with eliminating occupations seemingly incompatible with their gender self-

concept. In Stage 3: Orientation to Social Valuation (Ages 9-13), children become more aware of differences in social status such as what attributes help individuals get higher level jobs. In the final stage, Stage 4: Orientation to Unique, Internal Self (Ages 14 and older), children take their preferred social selves for granted and are better able to understand their own values and goals as they determine which work fits their interests and talents.

In compromise, individuals must recognize that not all of their occupational choices are accessible to them. Gottfredson (1996) postulated a theory in which individuals will choose work in a different field within their social space as opposed to compromising prestige or sex type. Children may also choose lower level work in comparison to seeking jobs that are in conflict with their gender self-concept (Gottfredson, 1996).

As children advance in age during the elementary years, they are able to take in more information as well as understand and analyze it, make distinctions among people and occupations, compare people and jobs along more dimensions, infer internal states, and discern patterns in their own behavior (Gottfredson, 1999). Young people can develop individualized self-concepts as they are better able to discern who they are as unique individuals. Gottfredson (1999) further stated that personalities, interests, and other enduring traits develop and are revealed as children engage in the world around them. Individuals in positions of power and authority have substantial influence on children during the most formative years of their life. Children gain more control as they mature, thereby becoming more active agents in their self-creation (Gottfredson, 1999). Self-esteem and self-concept are heavily focused upon during the elementary years as children become more knowledgeable about the world of work (Auger, Blackhurst, & Wahl, 2005). As a result, children also become more introspective regarding their interests, abilities, skills, and talents and how these translate into a good career fit later in life

(Schultheiss & Stead, 2004). It behooves school counselors to understand these developmental processes and become student advocates in finding ways to maximize each student's potential for learning. Career development initiatives can often be interwoven into those lifelong learning goals.

The career theories of Super and Gottfredson serve as hallmarks in the history of child career development, but there is a small amount of contemporary empirical literature that exists investigating career exploratory behavior and vocational interests of children. This research supports the value in examining children's career interests as they are often embedded within a developmental framework and tied directly to student learning and academic achievement. (Helwig, 2008; McMahon & Watson, 2008). Although the theories of Super and Gottfredson provide important theoretical assumptions and underpinnings, they lack applicability to real-world practice and fail to recognize the influence school systems, specifically school counselors, exert on the lifelong process of career development. It is important to acknowledge early elementary childhood experiences that act as significant marker events leading to later adult career decisions.

Contemporary View of Child Career Development

Wood and Kaszubowski (2008) examined the career needs of rural elementary school students through convenience sampling using the Child Career Development Scale (CCDS) and found that students scored lowest in the areas of curiosity (inquisitive thoughts and behaviors), information (awareness of the importance of occupational information), time perspective (focus on future career desires), and key figures (acknowledgement of role models or people individuals looks up to). Results indicated that males had lower curiosity scores than female students on the CCDS. Although differences have been found regarding the dimension of gender, further

research is needed to understand the implications of these differences. Nevertheless, gender differences may have implications for documented differences between boys and girls on academic achievement (Wood & Kaszubowski, 2008), career development (Care, Deans, & Brown, 2007; Phipps, 1995; Wood & Kaszubowski, 2008), and engagement in schooling (Wood & Kaszubowski, 2008).

Harkins (2001) acknowledges that career decisions made by young adults have their roots in early childhood and that by incorporating work-readiness activities into curriculum helps children build strong concepts and prepares them for the decisions they must make in the future; albeit in ten or more years. What children know about careers is often shallow and represents exaggerated or stereotypical role models often portrayed in media (Harkins, 2001). Children often choose careers that are familiar to them, particularly jobs that are held by close friends or family members. Although it is not recommended that young children make decisions regarding careers they will follow as adults, they can begin to stimulate curiosity as they gather information about jobs and develop skills that will support later success in the workplace.

Work readiness habits are acquired over time and Harkins (2001) identifies several goals that are believed to be of important consideration in early childhood career education. These include acquiring information, building self-awareness, developing positive attitudes and habits, exploring equity issues, and increasing competencies (Harkins, 2001). These goals encompass career curriculum and it is recommended that such curriculum be systematically integrated throughout school subjects and curricular activities. Preparation for one's life work is the ultimate goal of education so studying careers in greater depth is considered an appropriate and beneficial aspect of educational endeavors. Educators must find ways to integrate career curriculum into the existing structure of learning goals and education initiatives.

Harkins (2001) acknowledges that career guidance is a vital dimension of human development, an essential element in basic education, and a means of promoting equal opportunity. As children reach young adulthood they will encounter the need to make decisions regarding higher education and career choices. By strengthening work concepts that have been built over time and integrated into career goals, students will be prepared to make important decisions later in life that will be integral in determining a satisfying and rewarding occupational choice for their future.

State and national mandates focusing on academic achievement, however, often take away career counseling resources from career development standards (Schneck, Anctil, Smith, Klose, & Dahir, 2012). Educational reform is interconnected to career guidance and counseling. Schneck, Anctil, Smith, Klose, and Dahir (2012) indicate that school counseling is at a crossroads for providing effective interventions to promote student's career development while still facing the need to respond to other professional demands. Teachers and school counselors may feel that providing classroom career guidance is yet one more activity added to their work overload, thereby decreasing their willingness to devote time to teaching of career based guidance curriculum.

This is problematic because recent educational initiatives set forth by President Obama indicate that all students should graduate from high school prepared for college or a career regardless of income, race, ethnicity, language background, or disability status (U.S. Department of Education, 2010). It is important for school counselors to bridge the gap between present student outcomes and future employment needs (Schneck, Anctil, Smith, Klose, & Dahir, 2012). The world of work has experienced radical changes as the US economy remains unstable and job

outlooks uncertain. The roots of school counseling embedded in career guidance must continue to create educational programs to support students' vocational development.

Drier (2000) asserts that in order for youth to have a plan for transition and success in the future, it is important to have the support of state departments of education and local school districts who are willing to devote time and resources to career development initiatives. School counselors are seen as stakeholders in not only promoting academic achievement but also encouraging employment and life success. Life planning should be a central element of any guidance program (Drier, 2000). Guidance programs should include a series of activities designed to take advantage of knowing one's past, encouraging students to know his or her employment options, and outlining steps to reach one's goals. Planning is one of the keys to success outcomes regardless of occupational choice. Drier (2000) identifies eight principles that form the foundation of career planning. Many of them are based on students being provided the knowledge needed to make informed choices regarding careers. Furthermore, these principals indicate that all students deserve career assistance regardless of program of study or their future educational career goals. Career and life planning programs require a degree of commitment from the total community including schools, families, and businesses. School guidance and counseling programs that plan exposure to careers enable students to develop plans for success both in the immediate future and long term.

The need for career development in schools is ever present as highlighted in the literature referenced above. However, school counselors face challenges in developing comprehensive school counseling programs inclusive of career components. Research suggests that when a comprehensive model is present, however, academic achievement of students increases (Johnson, Nelson, and Henriksen, 2011). Johnson, Nelson, and Henriksen (2011) examined a

program director, administrator, and three school counselors to evaluate their experiences in implementing a comprehensive, developmental, guidance and counseling program (CDGCP) at the elementary level using a qualitative study and found several themes that emerged. The four themes included differences of knowledge regarding the CDGCP, benefits of a CDGCP, time constraints, and inconsistencies in role expectations. Benefits of a CDGCP included the viewpoint that the program is proactive and preventive so that all students could be served and the program provides a road map, or guide, for counselors to follow. Time constraints and role inconsistencies were identified as difficulties for counselors to implement the state's CDGCP model.

Differences in Career Preferences Based on Gender

Gender differences have been the most widely researched aspect of career dreams of young children (Phipps, 1995). Sex typing of career aspirations exists as young as preschool ages. Care, Deans, and Brown (2007) found that the vast majority of children (70%) nominated real occupational roles as opposed to fantasy ones. Specifically, the majority of boys who aspired to real jobs named male occupations. The real job aspirations for girls were spread evenly across male, female, and gender neutral careers. Sex type of occupational aspirations differed significantly for boys and girls. The most popular occupational choices for boys were firefighter, police officer, and doctor. For girls, the most popular choices were doctor, nurse, journalist, dancer, and police officer. The fact that girls were attracted to and aware of jobs across the gender spectrum may appear contrary to Gottfredson's notion of sex role stereotyping, but children in this research sample had highly educated parents, perhaps contributing to the wide array of careers the girls preferred. This research is consistent with the idea that the experiences children have related to careers often provide exposure to and selection of specific occupations.

Differences in Career Preferences Based on Ethnicity

With respect to strategies for addressing the career concerns of diverse client populations, vocational aspirations of children across ethnic and racial groups have received little attention in the investigation of children's career aspirations. Bobo, Hildreth, and Durodoeye (2008) examined the changing patterns in career choices among African-American, Hispanic, and Anglo children. Participants included 1,611 first through sixth graders in a northwestern Texas school district. There were 822 girls and 789 boys; 58% of participants were Anglo, 26% were African-American, and 16% were Hispanic. Students were asked to complete a simple form indicating their sex and the question, "What would you like to be when you grow up?"

Results indicated there were 45 common careers for boys and girls (examples included doctor, teacher, and singer), 56 careers not listed by girls (examples included truck driver, fireman, and judge), and 51 not listed by boys (examples included mother, nurse, and cosmetologist). The two career choices most favored by boys was professional athlete and police officer respectively. The top choice in African American boys in grades first through sixth was athlete. The first choice of Anglo boys in grades 3-6 was also professional athlete. The top choice for first and second grade Anglo boys was police officer. Hispanic boys in grades 3-6 selected professional athlete as their first choice while police officer was the first choice for Hispanic boys in grades first and second. There were few differences in the career choices in Anglo, African American, and Hispanic girls. These results further support findings that children's career choices are influenced by their own experiences. One may speculate that girls are increasing the variety of careers they choose due to more varied career choices and movement into careers previously reserved for men. Counselors need to be mindful of these

trends to assist students in making career choices and broadening their career knowledge, awareness, and experiences.

Typical Career Guidance Interventions in Elementary Settings

In recognizing that differences exist in career preferences and aspirations based on gender as well as race and ethnicity, it is important to acknowledge the pivotal role that career interventions play in allowing children to broaden their career awareness as well as learn more about their skills, abilities, and interests and how those translate to the world of work. Interventions aimed at allowing children to gain self-awareness and establish a link between academic success and job success may lead to greater school performance. Increased school performance thereby increases opportunities for post-secondary education and desired vocational/technical training. Children become more informed regarding the education, training, and skills needed to be a successful worker in the job market.

Gillies, McMahon, and Carroll (1998) evaluated a specific career intervention program with children in sixth grade noting that young students need to develop competencies in language and communication, mathematics, science and technology, problem solving, and personal/interpersonal relations in order to achieve success in working effectively with others. The program assisted children in developing an understanding of self within the world of work and the diversity of life roles individuals engage in. There were 107 children in Grade 6 from four classes in a private coeducational college located in Australia who participated in the study. The classes were matched in terms of size, gender, and ability level. Two of the classes were randomly assigned to the treatment condition (Condition 1) and two were assigned to the comparison condition (Condition 2). The students in the treatment condition participated in 10 weekly career education lessons for one hour each week. The comparison group did not

participate in any special or additional career education lessons but rather participated in regularly scheduled human relationship/health education lessons. Both groups participated in lessons within the classroom environment that were facilitated by classroom teachers who were trained in career development.

The 10 weekly lessons covered content materials including the following themes:

Thinking about who I am, How am I like others in my class?, Thinking about subjects, Finding out about jobs, Country jobs and city jobs, Thinking about career development, Gender stereotypes, Career development of a parent or family friend, Thinking about the future, and Career Portfolios. There were five separate instruments comprising the *Career Awareness Survey* including 1.) *Personal self-knowledge*, 2.) *Career education language*, 3.) *Gender and jobs*, 4.) *Similarities between jobs*, and 5.) *School learning and jobs*. These were used to evaluate the career education program. Two career counselors (blind to the conditions of the study) scored each of the five instruments. Results showed that children in Condition 1 continued to hold gender stereotypical attitudes towards jobs typically occupied by males and females and that their attitudes remained unchanged despite their participation in the career education program. There were no significant differences between males and females in gender stereotypes attributed to different jobs. Thus, males and females in both conditions perceived males would make better engineers and truck drivers while females were perceived to make better nurses and secretaries. Results also showed that there was little difference between the two conditions as measured by the five instruments comprising the *Career Awareness Survey* after completion of the program. There were, however, differences on the following two instruments, *Personal-self knowledge* and *School learning and jobs*. For the *Personal self-knowledge* instrument, students participating in the career education program had a better understanding of the different information sources they

could use to find out about jobs than their peers who did not participate in the program. The program stimulated children's interest in career information and they actively sought out various career sources including those available through computer software. Differences between the groups on the *School learning and jobs* instrument showed that children who participated in the career education program had a better understanding of how their learning at school related to specific jobs. For example, they learned that skills such as "good writing and speaking" as well as "good problem solving" were necessary in order to be lawyers. Although the career education program, overall, had a positive effect on children's job knowledge and links between school learning and jobs, it did not appear to affect children's gender stereotypes regarding different occupations. Many children still held "traditional" attitudes as to whether or not males or females were specifically suited to individual careers. This may speak to the socializing effect media and society has on children regarding such stereotypes.

Inclusion of a developmentally appropriate curriculum is key to career interventions for children (Harkins, 2001). Curriculum must hold personal meaning for children to prepare them to succeed as adults in activities that mimic adult work demands. Teaching that is done by incorporating developmental activities should address the talents, needs, and cultural antecedents of children. Children's choice of an occupation is believed to be linked to their individual abilities although family and community influences are increasingly present as well.

Web-Based Learning Systems as Interventions

With the advances in technology taking place educationally and socially, children are accustomed to acquiring information via the web. Computer assisted programs provide games, videos, chatrooms, and discussion boards all designed to help enhance learning by providing innovative and creative lessons for both auditory and visual stimulation.

Roschelle, Pea, Hoadley, Gordin, and Means (2000) examined how and what children learn in school is affected by computer-based technology. Computer technology can help support learning specifically in developing higher order critical thinking skills, analysis, and scientific inquiry in subject areas such as math, science, and literacy. Yet not all computer programs are created equal and some are more promising than others. Computer technology can enhance four fundamental characteristics of learning: active engagement; participation in groups; frequent interaction and feedback; and connections to real world contexts (Roschelle, Pea, Hoadley, Gordin, & Means, 2000). Using technology as an effective learning tool is more likely to take place when it is embedded into a broader educational program focused on teacher training, student assessment, curriculum, and a school's capacity for change (Roschelle, Pea, Hoadley, Gordin, & Means, 2000). Education policy analysts agree that satisfying demands of technology require rethinking the ways in which educators support learning. Studies regarding the effectiveness of technology in the classroom often have mixed results. This makes it difficult to generalize findings but does offer some promise for integrating technology into school curriculum.

It is important to examine research utilizing web-based programs in school systems to determine if computer assisted child career development programs can offer similar successes to other academic programs such as math and reading. Slavin and Lake (2008) reviewed research on the achievement outcomes of three types of approaches in improving elementary mathematics. These included: mathematics curricula, computer assisted instruction (CAI) and instructional process programs. The study showed limited evidence supporting differential effects of mathematics textbooks with moderate effects for CAI. The strongest positive effect was found for instructional process approaches including cooperative learning, classroom

management and motivation programs, and supplemental tutoring. This study showed that programs that change daily teaching practices are more effective than those programs focused solely on changing curriculum or technology.

Macaruso, Hook, and McCabe (2006) studied the efficacy of a computer-based supplementary phonics program for mastering word-attack strategies in at-risk first grade elementary students. Ten first grade classes were selected for participation located in five urban elementary schools in Boston, Massachusetts. There was one class in each school assigned to the experimental group and one class assigned to the control group. A total of 92 students were assigned to the treatment group and 87 students assigned to the control group. All students in the treatment and control groups were involved in daily reading instruction using some form of explicit phonics instruction. The classes assigned to the treatment used special phonics software for approximately six months. Software tracked lessons and recorded skill units completed for each student. Two sets of analyses were utilized. The first set of analysis considered all students in both the treatment and control groups. A second analysis was restricted solely to Title I students. Results indicated that students who participated in the supplementary web-based reading programs made significant gains in mastery of reading skills and post-test scores were slightly greater than those students who were in the control group and did not have this type of intervention. When restricted analyses specifically examined low performing children who were eligible for Title I services, significantly higher post test scores were obtained in the treatment group as opposed to the control group. At post-test, Title I children performed at levels similar to those students who were not Title I eligible. The Title I students who completed the most skill units showed the greatest gain in performance. The finding which indicated that Title I students in the treatment group outperformed Title I students in the control group is a striking difference

due to the fact that all first grade students receive systematic, phonics based instruction as part of the general curriculum.

Alomyan (2004) points to the main advantage of web-based learning in that it incorporates non-linear interaction (individuals have the freedom to choose their own learning paths allowing them to have more control over their learning. However, this type of learning may also contribute to *disorientation*, *cognitive overload*, and *control problems*. *Disorientation* is a problem whereby field dependent learners are more likely to become confused during web navigation particularly if they are uncertain where they are and where to go next. Complex web programs that are difficult to navigate may contribute to this issue. *Cognitive overload* is a problem whereby learners may be diverted from content and relationships due to the need to focus on navigational decision-making. Information may be easily accessible but not all of it will be relevant thus making it difficult for learners to decide what is important and what is not. *Learner control*, a third potential problem, is the amount of control an individual can exert in a situation, which may vary significantly. Even with the drawbacks mentioned above, this research highlights individual differences within the context of learning and focuses on how systems can be adapted to individual learning styles and needs. Web-based learning systems may not be suitable for all types of learners in a learning environment and educators must be mindful of student individual differences including various cognitive styles and prior knowledge of the subject.

Summary of Literature Review

This literature review provides support for the importance of addressing career development in childhood as opposed to waiting until children have reached adolescence and adulthood to begin the career decision-making process (Schultheiss, 2008). School counselors

are often met with a plethora of demands placed on their time. The need to address all three counseling components (academic, personal/social, and career development) is paramount to creating and maintaining a comprehensive school counseling program (ASCA, 2005). Although there is a greater body of research dedicated to developing guidance lessons to be used as interventions in both academic and personal/social development domains, counseling professionals appear to be less informed when it comes to developing appropriate guidance interventions specific to a career focus. There is also little research that exists to help inform that practice.

Although research acknowledges we are in the beginning stages of examining career development in children (Hartung, Porfeli, & Vondracek, 2008), continued research examining the process by which children develop self-concept identity and vocational maturity will illuminate knowledge within the field of career counseling. As more states adopt career standards to be implemented in K-12 public school systems, school personnel will need to respond to those demands with heightened awareness for appropriate and time-sensitive interventions to be included in classroom as well as counseling curriculum. ASCA (2005) proposes that all three counseling domains (academic, personal/social, and career) be addressed in equal amounts, thereby reinforcing the need for research in career counseling across the lifespan. The research discussed in the above literature provides an impetus for further discussion to follow examining appropriate and effective career interventions to meet the challenges school counselors face in the 21st century in preparing youth for their future work lives.

CHAPTER 3

METHODOLOGY

This chapter expands upon the literature presented with respect to child career development. It provides information regarding research procedures, data analysis assumptions, psychometric properties of the instruments used in the study, and subscale constructs. The independent and dependent variables are also discussed as they relate to statistical hypotheses and analyses. A discussion of the statistical analyses employed in this study presented. Research questions and hypotheses that were generated as part of this study conclude the chapter.

Participants

Potential participants were recruited from an elementary school in a rural district within a Mid-Atlantic state of the United States. Participants consisted of fourth and fifth grade elementary school students (134 total enrolled students) from all seven classrooms contained within one elementary school. The school had a total enrollment of approximately 460 students in kindergarten through fifth grade at the time of the study. It was one of four elementary schools in a district of approximately 3,000 students. Student race-ethnicity for fourth and fifth grade in that school includes was as follows: 121 White/Non-Hispanic, 10 Hispanic/White, 1 Asian American, 1 Black/African American, and 1 Multiple Races. Ages ranged from 9-12. Approximately fifty-four percent of the students who participated in this study qualified for free/reduced price lunch.

Instruments

Career Development Demographic Questionnaire. The Career Development Demographic Questionnaire (CDDQ) is a brief, researcher created, survey designed to assess basic demographics of the sample, such as age, grade, and gender. It also asks supplemental

questions such as students' favorite school subject, favorite special subject, the career fields that interest them the most, the job they hope to have in the future, and the amount of education they believe is needed to attain that job.

The CDDQ was attached to the CCDS as a cover page. Students completed this brief, one page questionnaire, which took approximately 3 minutes of time. This demographic form was completed both pre and post along with the CCDS. The CDDQ can be found in Appendix A.

Childhood Career Development Scale (Schultheis & Stead, 2004). The Childhood Career Development Scale (CCDS) is a questionnaire that assesses children's degree of career development. It is designed to measure student progression in the nine dimensions of Super's growth stage of career development. The CCDS consists of eight subscales, which include the following: information, curiosity/exploration, interests, locus of control, key figures, time perspective, planning, and self-concept. Although Super acknowledges curiosity and exploration as separate dimensions, the CCDS combines these two into one subscale rather than examining them separately. Thus, there are only eight subscales examining a total of nine dimensions.

The CCDS is a paper-and-pencil self-assessment containing 52 items designed for grades 4-6. It can be administered individually or in groups. The time for each student to complete this survey is approximately ten to fifteen minutes. Items are scored on a five choice, Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The CCDS can be found in Appendix B. Permission from the author to use this scale can be found in Appendix C.

The CCDS is used to determine how successful students are in mastering the developmental concepts of career planning based on the nine dimensions of Donald Super's career research. Each student receives a summated score on each of the eight subscales of the

CCDS. The content of the eight subscales are outlined below. The Scoring Key for the Childhood Career Development Scale can be found in Appendix D.

The *information subscale* utilizes six items to measure career knowledge (e.g., “I want to get more information about jobs”). The *curiosity/exploration subscale* encompasses seven items to assess exploratory behaviors (e.g., “I try to find out more about what I learn in school”). The *interests subscale* consists of six items to help children identify preferences (e.g., “I know what I’m good at”). The *locus of control subscale* contains seven items measuring personal attribution (e.g., “I have control over how well I do on my school work”). The *key figures subscale* comprises five items to identify individual career influences (e.g., “I know people who have my favorite job”). The *time perspective subscale* has four items to measure time management (e.g., “It is important to plan now for what I will be when I grow up”). The *planning subscale* utilizes eleven items to assess planfulness (e.g., “It is important to have a plan when I do things”). The *self-concept subscale* consists of six items measuring self-esteem and self-efficacy (e.g., “I know what kind of student I am”).

The CCDS has Cronbach alpha values ranging from .66 to .86, for the eight orthogonal career dimensions (Shultheiss & Stead, 2004; Wood & Kaszubowski, 2008). Specifically, Cronbach’s alpha for each dimension is reported as follows: Planning (.85), Self-concept (.84), Information (.73), Interests (.74), Locus of control (.86), Curiosity/Exploration (.66), Key Figures (.68), and Time Perspective (.69). These scores indicate the instrument has limited but sufficient internal consistency for the majority of career dimensions. The CCDS does not provide Cronbach’s alpha information based on the total score. Validity has also been established as subscales of the CCDS were correlated with measures of self-esteem (Schultheiss & Stead, 2004), academic self-efficacy (Schultheiss, Stead, & O’Donnell, 2006), and locus of control

(Schultheiss & Stead, 2004) in theoretically expected directions. Data pertaining to reliability was calculated as part of the sample for this study. Few instruments have been developed to assess child career development and the CCDS has been recommended as an appropriate research tool (Shultheiss & Stead, 2004; Wood & Kaszubowski, 2008).

Treatment Interventions

Kuder Galaxy Program (Kuder, Inc., 2012). The Kuder Galaxy Program (KGP) is an online career awareness experience for elementary students designed for pre-kindergarten through fifth grade. The purpose of this program is to expose children to various career choices through web based instruction. All activities in the KGP are based on the standards from the NCDA and the ASCA. These organizations provide guidelines for addressing career development in school systems.

The KGP is a pretend interactive space program that allows students to explore their career interests and learn more about themselves through games, videos, songs, activities, scavenger hunts, and experiments. There are three divisions of self-guided, differentiated, developmentally appropriate activities, which include specific activities clustered for pre-kindergarten through second grade, activities for third and fourth grade, and those for fifth grade.

Administration of the KGP occurs individually as children navigate the world of computers and the world of work through exposure to educational and entertaining career activities that incorporate multiple senses such as sight, sound, and touch. Typically, students complete activities at their own pace through self-selection or are instructed by a teacher to complete recommended activities as part of a classroom lesson. The length of time to complete each activity varies depending on how quickly students move through the program and the type of activity completed (such as watching a video versus playing a game). Instructional leaders, or

school counselors, can recommend certain activities as part of a larger guidance unit. They may allow time for children to choose specific activities that are of individual interest to them. Some activities, called Spotlight activities, must be completed first before students have the opportunity to complete Reward Activities. Reward activities unlock, or only become available, after a specified number of core learning activities have been completed by the student. The activities at each grade level are based on self-understanding and are developmentally appropriate.

The activities in the program are used to link children to six career fields. Those career fields form the cornerstone of the KGP. They include the following: communication and information systems; business, marketing and management; industrial, manufacturing and engineering systems; human services and resources; health sciences; and environmental and agricultural systems. Specific activities and videos are connected to these career fields. An example may include a video of a ballet dancer as a career. Another example may be an interactive game called Career Leopardy, where children follow the basic rules of the popular game show, Jeopardy, using career knowledge to answer questions.

The KGP is also connected to core school subjects (fine arts; health education; mathematics; physical education; reading, writing, and oral language; science; and social studies). An example of an activity connected to mathematics may be Measurement Mania. An example of an activity linked to oral language may be a worksheet titled, Terri the Translator. Several activities correspond with each of the core school subjects. Some activities are entirely web-based while others involve supplemental printable worksheets or physical activities, which engage children in the world around them and help them to make connections among home, school, and the community.

Students select icons from the program to determine which activities they want to Play, Watch, Do, and Explore. Children are able to click on the Play, Watch, Do, and Explore icons that take them to specific activities that relate to those areas. The Play section provides children with games that focus on educational development and career interests. The Watch section enables children to view videos by exploring self-understanding through the world of work. The Do section provides downloadable activities to help stimulate learning in a fun, self-paced way. The Explore section provides ideas for supplemental activities for children to engage in, perhaps on their own, such as field trips, scavenger hunts, and experiments, encouraging them to explore the world around them.

There are three viewable dashboards within the KGP. These include the student, parent, and teacher. Therefore, parents and teachers are able to monitor student progress within the program, if they so desire. There are themes at each grade level as well. Since the present study specifically examined fourth and fifth grade career development, those themes will be further delineated. For fourth grade, the theme is Pioneers, in which students develop self-understanding around the concept of decision-making. Fourth graders are introduced to the world of work through the career decision-making process. For fifth grade, the theme is Communicators, in which students develop self-understanding through awareness of personal responsibility and good work habits often linked to career opportunities. Fifth graders are introduced to the world of work through understanding the variety of roles they play in their lives and how they can fulfill interests through those roles.

The KGP offers school counselors and teachers a mechanism by which to address state mandated career development standards in a timely and efficient manner. School counselors are met with a plethora of demands placed on their time. The need to address all three counseling

domains (academic, personal/social, and career development) is paramount to creating and maintaining a comprehensive school counseling program and meeting the needs of all students (ASCA, 2005).

Journeys to Jobs: Story, Lessons, & Activities on Career Choices (Wosnik, 2010).

Journeys to Jobs (JTJ) is a curriculum guide for Grades 3-5 published by MARCO Products, Inc. This curriculum focuses on the importance of children uncovering interests and abilities while making future career decisions. The guide includes an original story of 12 children and how their hobbies and interests influenced their career decisions. Each career presented is related to a career cluster. Material and lessons in the book are linked to the ASCA standards for promoting career awareness and development.

JTJ can be used in a variety of ways dependent on the goals of the lessons and needs of the facilitator. The JTJ curriculum guide contains four lessons that may encompass a career awareness unit or used individually as single lessons. It is estimated that each lesson takes about 30-45 minutes in length. Lessons include supplemental activities, which may lengthen the time devoted to learning. The first lesson is based on the story presented in the book. The second lesson emphasizes decision-making. The third lesson provides a comparison between a student of the month and an employee of the month. The fourth lesson highlights homework as part of a student's job. Reproducible activities are included for each career in the story. Supplemental activities are also provided along with a CD including printable worksheets for completion.

Variables

There were two independent variables in this experimental research study. The first independent variable was the type of career intervention each student received (either computer assisted career guidance lessons (KGP) or traditional, human assisted, career guidance lessons

(JTJ). The second independent variable was time. All participants were administered the CDDQ and CCDS both pretest and posttest. The dependent variables (or outcome variables) for this study were the eight subscale scores on the CCDS. Specifically, these included planning, self-concept, information, interests, locus of control, curiosity/exploration, key figures, and time perspective.

For the purpose of this study, however, only four of the eight subscales were examined. The selected four subscales included information, curiosity/exploration, interests, and locus of control. These subscales were selected for examination based on the learning activities and objectives that directly related to the KGP and the JTJ interventions. The variables were quantified by the measurements described above.

Procedure

Prior to the beginning of this study, the primary researcher received permission and consent from the building principal as well as the district superintendent and curriculum coordinator to conduct research regarding the career exploratory behaviors of elementary aged children. All administrative personnel were informed as to the purpose of the study and any risks and benefits involved in having students participate. This district approval form can be found in Appendix E.

Additionally, the primary researcher applied and received permission from the Institutional Review Board (IRB) at the university affiliated with this study. The IRB approval letter can be found in Appendix F.

An informed consent form was sent home with each student in fourth and fifth grade consisting of two pages. The first page was a letter to parents or legal guardians from the researcher describing the study and inviting the student to participate. The Participant Invitation

Letter can be found in Appendix G. The second page was an Informed Consent Form outlining the purposes and procedures of the study along with a statement regarding confidentiality. The Informed consent form can be found in Appendix H.

Because the guidance lessons were part of a larger comprehensive school counseling program within the district, the researcher decided to use an opt-out method for obtaining consent. The opt-out statement was included in the informed consent form. This method was considered appropriate because all elementary students participate in classroom guidance lessons at some point during the academic year as part of their total educational curriculum. The school district does not require parental consent for students to participate in guidance lessons. The lessons associated with this study, however, were facilitated as part of research so consent was needed. Informed consent forms were sent home with parents, or legal guardians, but they were not required to sign and return those documents if they agreed to allow their child to participate. Alternatively, parents were encouraged to contact the school if they had questions regarding the study itself or if they preferred to have their child excluded from it.

In addition to obtaining parental consent, child assent was also obtained as part of the research procedures. The chronological age of the child dictates the kind of assent procedures that were necessary. The IRB at the university associated with this research recommended that, for children ages 8-13, a more complete oral description of the research (in layman's terminology) should be given to the participant. Verbal assent should be requested. The procedure should be documented on the informed consent form by the signature of a witness. Given these recommendations, the researcher adhered to the university guidelines for obtaining verbal child assent from the participants. Classroom teachers served as witnesses. The Child Assent Form can be found in Appendix I.

All students who had parents or legal guardians that granted consent to participate in this study and those who also granted child verbal assent were included as participants in this study. The participants were administered the pretest CDDQ and CCDS at the midpoint of the academic year. It was decided that the middle of the school year was the most appropriate point in time to conduct this study because students were adjusted to the school and had familiarity with the faculty, staff, and school counselor. Students were given the pre CCDS and CDDQ in a separate session (not inclusive of the four total lessons) prior to the first scheduled guidance lesson. Students were administered the post CCDQ and CCDS as a follow up, or extension, to the fourth and final lesson. Students wrote their first and last names on the pre and post test measures. Their names were then coded as numbers to preserve anonymity and assist with data entry and analysis.

The building school counselor, who was also the primary researcher, informed teachers about the study through grade level team meetings. Subsequent e-mails were sent to coordinate classroom dates and times that were conducive to administering the CDDQ and CCDS to all seven classrooms inclusive of fourth and fifth grade. A schedule for the career guidance lessons was developed so the interventions could be implemented one time per week for four weeks.

Students in fourth and fifth grade were randomly assigned to either the intervention group (KGP) or the comparison group (JTJ). Half of the total number of participants were assigned to the experimental group and half were assigned to the comparison group. Both the experimental and comparison groups received the same number of career guidance lessons (four weekly lessons with each lesson lasting approximately 45 minutes in length). At the conclusion of the four weeks, children were re-administered the CDDQ and CCDS to measure career development

gains and determine if their attitudes regarding careers were influenced by the type of intervention they received.

During child assent procedures, the researcher notified participants that they would be involved in a guidance unit on careers for the next four weeks. After administration of the pre CDDQ and CCDS, students were informed that each homeroom would divide into two groups to learn more about careers. It was explained that the reason for the division was to allow each group a different learning approach with respect to career information. In order to decide who would be assigned to each group, students reached inside a gift bag and pulled out a star made of construction paper. If the star was blue, they would proceed to the computer lab for all four of the weekly guidance lessons. If the star was yellow, they would proceed to a designated classroom for all four of the weekly guidance lessons.

Students wrote their first and last names inside the stars and the researcher collected the stars from the participants. Participants were informed that for each week that he or she was present for the lesson (not absent), a sticker would be received on one of the points of the star. All participants received a star for completing the pre-test, which acted as an early behavioral incentive. The participants then had opportunities to earn four more stickers corresponding to the four remaining lessons. Since there are five points on a star, the goal was for each participant to fill up his or her star with all five stickers. Participants were instructed that if they received all five stickers on their stars, they would receive a special prize. They were not informed what the special prize would be until the study was finished. The construction paper stars were returned to students, weekly, so that they were able to chart their progress toward that goal. Each week, the researcher added a sticker to the star for everyone who participated in the lesson. When the stars were returned to the students, they were able to view the number of stickers they accumulated in

total as of that point in time. The stars were returned to students and collected from them on a weekly basis. This visual aid helped students keep track of their own participation and motivated them to attend the lessons. It also helped the researcher account for attendance on a weekly basis. At the end of the study, students who received all five stickers on their stars received a gift bag containing special educational supplies. The contents of the bag included a decorative pencil, decorative eraser, and spin top toy.

Participants were informed that each group would be taught by an advanced master's level school counseling internship student. The primary researcher served as a supervisor to the research assistants and observed the two groups as they took place simultaneously. The primary researcher went back and forth between the two classrooms that were utilized for the guidance lessons. In addition, there was one administrative assistant assigned to work with the experimental group (KGP) to help assist students on the computer with any difficulties and to trouble shoot possible technical malfunctions. For the comparison group (JTJ), the classroom teacher served as an assistant and stayed in the classroom to assist with any potential behavioral disruptions.

The research assistants consisted of two, advanced master's level graduate students completing final degree requirements for graduation in school counseling from a program approved by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The research assistants received training regarding the research protocol by the primary researcher of this study. They were provided all curriculum materials necessary to facilitate the career guidance lessons. State and school district policies require all volunteers in schools to secure appropriate clearances prior to participating in school activities. Therefore, clearances were obtained for the research assistants prior to the start of the study.

The research assistants were paid for their mileage to the research site based on the current rate of reimbursement according to the Internal Revenue Service (IRS). They were also offered a weekly stipend of fifty dollars. All lessons occurred on one specific day of the week and involved about three hours of instruction. The stipend amount was determined using the average daily substitute rate for the state. Given the number of instructional hours involved, students were paid based on being a half-day substitute. Lunch was also provided to the research assistants.

The rationale for recruiting school counseling internship students to serve as research assistants in facilitating the career guidance lessons was so that both instructors would be at the same level of training and experience in their career. This would allow for consistency in delivery approaches for both groups. It would also help to minimize possible confounding variables, such as years of experience teaching. Additionally, it would remove any bias the primary researcher may have regarding group interventions, as they could potentially impact the results of the study.

Group 1 Treatment: Kuder Galaxy Program

Students in Group 1, the experimental group, received classroom guidance one time per week for a period of four weeks utilizing a 45-minute time slot each week to explore the KGP. Students were brought to the computer lab to navigate the web-based career program. Students had a total of four sessions in which they were given the allotted time period to use the KGP as instructed by the research assistant. Students were assigned usernames and passwords to access the KGP website. For the first week, one general username and password was written on the board. However, due to technical difficulties with using one general login, individual logins were assigned to each student. The login information for each student was taped to the back of the

stars that students received weekly. Usernames and passwords were configured in such a way to make it difficult for students to remember them for use at home. Since this was a research study, some students accessing the program from home may have presented confounding variables. Therefore, attempts were made to minimize these and discourage such practices.

Activities were selected each week that students must complete while other activities were optional as time permits. Students completed at least one activity in the following categories: Play, Watch, and Do. The Explore category was intended for activities outside of the classroom and this category was not used for the purpose of this study. The research assistant answered any questions students had and walked around the room to make sure students were working independently and behaving appropriately. The administrative assistant followed the same procedure as the research assistant. The specific activities and curriculum for each session and each grade are outlined below. Each session included an introduction and conclusion to the lesson lasting approximately five minutes for each part making a total of ten minutes. These parts were a discussion format and were included as an attempt to keep human interaction consistent between the experimental and comparison groups.

Grade 4.

Session 1. Session 1 consisted of the following. For the Play category, participants played a Whizz Words Activity game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Learning about Clusters. The second worksheet was called Weekly Decisions. The worksheets were provided as handouts to students.

Session 2. Session 2 consisted of the following. For the Play category, participants played a Bird Word Search game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Consequences. The second worksheet was called A Good Decision. The worksheets were provided as handouts to students.

Session 3. Session 3 consisted of the following. For the Play category, participants played a Measurement Mania game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Sort the Secretary's Files. The second worksheet was called Friendships. The worksheets were provided as handouts to students.

Session 4. Session 4 consisted of the following. For the Play category, participants played a Career Connection game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Daily Schedules. The second worksheet was called Terri the Translator. The worksheets were provided as handouts to students.

Grade 5.

Session 1. Session 1 consisted of the following. For the Play category, participants played a Mechanics game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called How do your Talents Relate to

Possible Career Goals? The second worksheet was called Why People Work. The worksheets were provided as handouts to students.

Session 2. Session 2 consisted of the following. For the Play category, participants played a Brain Letters game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Make a Resume. The second worksheet was called Making Good Managerial Decisions. The worksheets were provided as handouts to students.

Session 3. Session 3 consisted of the following. For the Play category, participants played a Seesaw Logic game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Strange but Fun Jobs. The second worksheet was called What If? The worksheets were provided as handouts to students.

Session 4. Session 4 consisted of the following: For the Play category, participants played a Career Leopardy game. For the Watch category, participants chose one video to watch related to a career they found personally interesting. For the Do category, participants completed two worksheets. The first worksheet was called Calculator Puzzles. The second worksheet was called Careers that Help People. The worksheets were provided as handouts to students.

Group 2 Treatment: Journeys to Jobs Program

Students in Group 2 received classroom guidance for the four week time period utilizing the same 45 minutes of weekly instruction regarding career development as Group 1. This group ran simultaneously as Group 1. Group 2 was facilitated by a school counseling intern as well.

Students in Group 2 utilized the curriculum from the JTJ book. The specific activities and curriculum for each session was the same for both grades 4 and 5 and is outlined below:

Grades 4 and 5.

Session 1. The topic is Journeys to Jobs. The lesson plan for this session can be found in Appendix J.

Session 2. The topic is Decisions. The lesson plan for this session can be found in Appendix K.

Session 3. The topic is Employee of the Month. The lesson plan for this session can be found in Appendix L.

Session 4. The topic is Homework. The lesson plan for this session can be found in Appendix M.

Both Groups 1 and 2 had approximately five minutes of discussion of career material in the beginning of the lesson, which served as an introduction. They also had five minutes of discussion of career material at the end of the lesson, which served as a conclusion. Those ten minutes included direct human involvement and engagement of students with the facilitator. The discussion was the same for students in Group 1 and Group 2 during the allotted five minute introduction and conclusion to the lesson. The remaining 30-35 minutes for each group varied based on the distinct curriculum prescribed for that particular treatment intervention.

The goals for each of the four sessions were the same for both groups and were connected to the career standards of ASCA. The activities that took place in each of the groups during the allotted 30-35 minutes, however, were different. Students in Group 1 (KGP) worked independently on the computer on selected activities. Students in Group 2 (JTJ) worked

independently on assignments, worksheets, or activities. The ASCA standards and learning goals for each of the four sessions for Groups 1 and 2 for Grades 4 and 5 are described below.

For Session 1, the ASCA standards included a link to interests and school studies. It also included identification of life roles and interests. The learning goals included an introduction to career choices, identification of current interests that can lead to a job, and career options to consider.

For Session 2, the ASCA standards included decision making skills. It also included the career decision making process as well as goal setting and career choices. The learning goals included helping students understand decision making and encouraging students to think about their interests.

For Session 3, the ASCA standards included skills for interacting. It also included skills for social and interpersonal interactions. The learning goals included identifying positive character traits in working individuals, developing character traits in oneself, and acknowledging how getting along with friends can help with getting along with future co-workers.

For Session 4, the ASCA standards included learning relationships between interests, activities, and school. It also included learning relationships between responsibility, work habits, and careers. The learning goals included helping students understand that their current job is school, encouraging students to take responsibility of their work, and assisting students with good study habits.

Research Design

The research design utilized in this study was a pre-test, post-test, comparison group experimental design. Experimental research designs are advantageous because they allow researchers to isolate specific independent variables that may cause variation, or changes, in

dependent variables (Urdan, 2010). In this type of research, experimenters divide the cases in the sample into different groups and compare the groups to one or more variables of interest (Heppner, Wampold, & Kivlighan, 2008). By dividing the cases into different groups using random assignment, researchers are hopeful that any important differences between the two groups gets distributed evenly and that if differences do exist between the groups it is due to differences in the effectiveness of the intervention. Experimental designs are the only types of research designs in which inferences of causality may be made (Urdan, 2010). This type of research allows for the careful controls needed for drawing conclusions about causal associations between variables.

Leong & Austin (2006) assert that internal validity will be highest when individuals are randomly assigned to conditions, the conditions differ on one dimension, and all treatments and assessments are given to the groups simultaneously. Because this study encompassed all three of these dimensions, it was believed that internal validity was high.

External validity in this study existed in that all students in fifth grade participated in the study representing both male and female genders, several ethnicities, and a range of socioeconomic backgrounds. Participants were not excluded based upon grade or building level criteria. This increased the level of generalizability across public school settings in that most of the public schools in America tend to be rather heterogeneous.

Data Analysis

Because all participants (experimental and comparison groups) were administered the CDDQ and CCDS both before and after the intervention period and scores were reported separately for each of the examined subscales of the assessment, data analyses required four repeated measures analysis of variance (ANOVA) to test whether students' scores varied based

on time (pretest versus posttest) and type of intervention (online versus non-online). There is one null hypothesis, H_0 = There will be no significant interactions between time (pretest vs. posttest) and treatment (online vs. non-online) on mean scores of the four subscales of the CCDS for fourth and fifth grade students.

The basic form of this type of analysis occurs when there is a single group (such as fourth and fifth grade students) with two or more scores (pre-test/post-test subscale scores on the CCDS). The dependent variables are always the same measure (CCDS subscale scores) and the group is always the same (fourth and fifth graders). The results of the repeated measures ANOVA tell the researcher whether there is an interaction. A significant interaction shows that there are differences in change scores (pre versus post) based on treatment type (online vs. non-online). Main effects (including time effects for pre and post testing) are also examined. If there is no significant interaction, a significant main effect of time would show that both treatment groups improved equally. If there is a significant interaction, a significant main effect of time would show that one treatment group was superior over another.

Repeated measures ANOVA is governed by the general principles of all ANOVA techniques (Urdan, 2010). In this type of analysis, there is concern about dividing up the variance in the dependent variable. In repeated-measures ANOVA, researchers seek to determine how much of the total variance can be attributed to time or trial (Urdan, 2010). In essence, how much of the total variance of the independent variable can be attributed to differences within individuals across the times they were measured on the dependent variable (Urdan, 2010). There are several types of variance. The first is variation in the average scores of the number of participants in the study. The second is the variation, or differences, in the scores pre-test and

post-test. Such intra-individual changes represent differences, or variance, within each individual and are called within subject effects or within subjects variance.

In the most basic form of repeated-measures ANOVA, the primary concern is whether or not there is systematic pattern of differences within individuals, in the scores in the dependent variable measure at two separate points in time (Urdan, 2010). Researchers look to find a pattern of differences in the scores within subjects over time.

There are several strengths in using this type of analysis method and they will be discussed below (Urdan, 2010). First of all, the repeated measures ANOVA analysis includes distinct advantages over a paired t-test. With repeated measures ANOVA, researchers can examine differences on a dependent variable that has been measured at more than two time points. This differs from an independent t-test in that an independent t-test can only compare scores on a dependent variable from two time points Secondly, by using a repeated-measures ANOVA, researchers can control for the effects of one or more covariates. Thirdly, in repeated-measures ANOVA, researchers can include one or more categorical or group variables. This mixed method model is useful for researcher.

The results of this study have been presented in figures, tables, and text. The majority of the results section is written in text form. Figures depicting the type of intervention (KGP vs. JTJ) based on time (x axis) and mean scores of the CCDS (y axis) are included. A table of CCDS subscale scores for pre-test and post-test administrations based on type of intervention received are also represented. Several other tables show descriptive data related to the study.

The following research questions and corresponding hypotheses have been presented as part of this study:

Research Question 1

Will there be changes within participants' beliefs and attitudes regarding career development and awareness on the CCDS from pre to post based on type of intervention received?

Research Question 2

Will there be differences between participants' beliefs and attitudes regarding career development and awareness on the CCDS from pre to post based on type of intervention received?

Research Question 3

Will changes in scores on the CCDS from pretest to posttest be dependent upon the interaction of time and type of intervention?

There are four hypotheses in this study, which will be clumped together into one null hypothesis. The null hypothesis is: H_0 : There will be no significant interactions between treatment (online vs. non-online) on mean scores of the four subscales (information, curiosity/exploration, locus of control, and interests) of the CCDS for fourth and fifth grade students.

CHAPTER 4

RESULTS

The statement of the problem in this study was that children in elementary school need more career development opportunities afforded to them to learn about their skills, abilities, and interests and how they relate to future career planning. Despite advances with integrating technology into the educational curriculum at large, counseling and guidance services supplemented by web based learning modalities have not been reported in the literature the same way basic subjects, such as reading and math, have.

This chapter provides a descriptive analysis of the sample and results of the experimental study. The data were pre-analyzed with procedures used to examine the assumptions needed for a two-way repeated measures ANOVA. In addition, this chapter presents the analysis of data pertaining specifically to the proposed research questions.

The data analysis includes both descriptive and inferential statistics. Descriptive statistics were used to summarize the characteristics of the sample population. Demographic analysis assisted in determining whether random assignment of participants was effective in creating equivalent experimental and comparison groups for the study. The inferential statistics used in the study included a two-way repeated measures ANOVA with test time as a repeated factor. These methods were utilized in comparing the experimental and comparison groups with respect to the research hypotheses. Statistically significant differences were assumed if the probability of making a Type I error (alpha) was $p \leq 0.05$ (two-tailed).

Assumptions of the general linear model and repeated measures ANOVA were addressed. Statistics and plots of residuals were examined. For some of the residual plots, it was obvious that normality assumptions were violated. Specifically, for the locus of control subscale,

data were non-normal, therefore a Wilcoxon Signed Rank was run on the data. This is the non-parametric equivalent of the dependent t-test. It is used to test differences between groups when two conditions exist with the same participants in both. The results of the Wilcoxon did not vary much from the ANOVA results, therefore it was decided to report the ANOVA results for this subscale.

Preliminary Analysis

Missing data. Data were entered from the CCDS pretest and posttest assessments into an SPSS data file (SPSS Inc., 2013). Prior to downloading the data file, an SPSS codebook was developed that corresponded with the variables under study. A frequency report was run for each variable in the data file. This report, along with a visual inspection of the data, were used to identify any miscoded data, data outside the potential range of scores/values established by the instrument, and patterns of missing data.

After inspecting the data, two participants out of the 122 failed to fully complete the CCDS pre-test. These students omitted an entire page (approximately 21 items of a 52 item measure, or forty percent of the assessment). Therefore, these two participants were removed from the analysis. There were no participants who failed to fully complete the CCDS posttest assessment.

There were .56 % of individual response items that were omitted on the CCDS, either pre or post. Frequency statistics were run to determine if there was a non-response pattern with any specific items and it was determined that no pattern existed. Therefore, median scores for each of the 52 CCDS items were obtained and imputed for specific items on the CCDS (pre and post) that were missing. For those participants indicating two or more adjacent responses on a single item on the questionnaire, the average of those responses was imputed for that particular item.

Sample Demographic Characteristics

Participants were recruited from an elementary school containing approximately 460 students. Of those students, there were 134 that were enrolled in fourth and fifth grade and were invited to participate in the study. There were no students who were excluded from the study since classroom guidance was provided in each elementary school within the district as part of a larger, comprehensive school counseling program. There were no parents who objected to having their child participate after informed consent forms were sent home with each student. There were also no students who objected to participating in the study as part of the child assent procedures. A total of 134 students currently enrolled in fourth and fifth grade began the study. There were two students who withdrew from the district during the four week time period and were therefore removed from the analysis. In addition, there were eight students who attended less than the three required guidance lessons and were also excluded from the analysis. The two students who omitted an entire page of the CCDS pretest were also not included. Thus, there were 122 students who completed the entire study including pre-test, post-test, and a minimum of three of the four guidance lessons. For these reasons, only data for the remaining 122 students were used in the analysis because these students completed the entire study protocol.

Table 1 provides a summary of demographic data. Demographic data were reported by all 122 participants excluding racial/ethnic identity categories. Racial/ethnic identity information was compiled from student information forms provided to the researcher by the school district. This method of obtaining racial/ethnic information was considered superior to inclusion of such items on a self-report demographic questionnaire, given students at this developmental age group may have difficulty accurately reporting such kinds of information. Fifty-eight percent of participants were male ($n = 71$) and forty two percent were female ($n = 51$). Fifty-four percent

were enrolled in fourth grade ($n = 66$) and forty-six percent were enrolled in fifth grade ($n = 56$). The ages of the participants ranged from 9-12 years of age ($M = 10$; $SD = .069$). Regarding racial and/or ethnic identity, 89% were White ($n = 109$), 8% were Hispanic ($n = 10$), .8% were African-American/Black ($n = 1$), .8% were Asian ($n = 1$), and .8% were Multiracial ($n = 1$).

Eighty percent of participants ($n = 98$) who completed the study attended all four guidance lessons, twenty percent ($n = 24$) attended three lessons. Fifty percent of students ($n = 61$) participated in the Kuder Galaxy guidance experimental group and fifty percent of students ($n = 61$) participated in the Journeys to Jobs traditional guidance comparison group.

Table 1

Participant Demographics (n = 122)

	n	% of sample	M	SD
Gender				
Male	71	58		
Female	51	42		
Race/Ethnicity				
White	109	89		
Hispanic	10	8		
African American/Black	1	.8		
Asian	1	.8		
Multiracial	1	.8		
Age			10	.69
9	27	22		
10	59	48.4		
11	33	27		
12	3	2.5		
Grade				
Fourth	66	54		
Fifth	56	46		
Group Type				
Kuder Galaxy	61	50		
Journeys to Jobs	61	50		
Number of Sessions				
Three	24	20		
Four	98	80		

Although there were eight separate subscales as part of the CCDS, four of the eight were examined for the purposes of this study. The rationale for choosing four was to have the subscales directly tied to the content of the four guidance lessons. The four subscales included information, curiosity/exploration, interests, and locus of control. Table 2 shows a summary of the summated scale means and standard deviations for the four subscales including pretest and posttest.

Table 2

Summary Descriptive Statistics for Summated Subscale Scores

Subscale Summated Score by Group	Pretest		Posttest	
	Summated Scale Mean	Summated Scale SD	Summated Scale Mean	Summated Scale SD
Information				
Web-based	23.33	3.72	24.02	4.2
Typical	23.28	4.08	24.51	3.63
Total	23.3	3.89	24.26	3.91
Curiosity/Exploration				
Web-based	24.85	4.19	25.31	4.51
Typical	22.36	4.31	24.41	4.38
Total	23.61	4.42	24.86	4.45
Interests				
Web-based	27.3	2.46	26.77	3.42
Typical	27.34	2.48	27.54	2.57
Total	27.32	2.46	27.16	3.04
Locus of Control				
Web-based	30.31	3.81	30.54	4.32
Typical	29.77	4.75	31.39	4.21
Total	30.04	4.3	30.97	4.27

Note. Total cases = 122 with 61 in the web based guidance intervention group (Kuder Galaxy) and 61 in the typical guidance intervention group (Journeys to Jobs). Response scale: (5= Strongly Agree; 4= Agree; 3 = Unsure; 2= Disagree; and 1 = Strongly Disagree). Theoretically, scores for the subscales could range as follows: Information (6 –30), Curiosity/Exploration (7-35), Interests (6-30), and Locus of Control (7-35).

A reliability analysis was performed to examine the internal consistency of the four subscales of the CCDS that were included for analysis. Cronbach's alpha (α) uses the associations among a set of items to indicate how well those items, as a group, hold together. It is used to indicate the average associations among a set of items. When a set of items has an alpha level of .70 or higher, the summated score from those items is considered acceptably reliable (Urdan, 2010).

For the CCDS pretest, the reliability analysis revealed that the locus of control items formed a reliable scale (Cronbach's $\alpha = .80$). For the other scales on the CCDS pretest (Information, Curiosity/Exploration, and Interests), the items failed to produce an internally consistent scale. Cronbach's α for these scales was .67, .66, and .56 respectively.

For the CCDS posttest, the reliability analysis revealed that items within the Information, Interests, and Locus of Control subscales all formed reliable scales as Cronbach's $\alpha = .72$, .76, and .86 respectively. The Curiosity/Exploration subscale for the CCDS posttest failed to produce an internally consistent scale (Cronbach's $\alpha = .67$). Table 3 shows a summary of the reliability information for the CCDS subscales used in the analysis.

Table 3

Summary Reliability Information for the Subscales Used in the Analysis

Subscale	Number of Scale Items	Number of Cases	Pretest Reliability				Posttest Reliability			
			Scale Mean	Low High	Inter Item Correlation	Cronbach's Alpha	Scale Mean	Low High	Inter Item Correlation	Cronbach's Alpha
Information	6	122	3.88	3.55 4.30	0.25	0.67	4.04	3.80 4.34	0.31	0.72
Curiosity/ Exploration	7	122	3.37	2.65 3.82	0.23	0.66	3.55	2.89 4.00	0.23	0.67
Interests	6	122	4.55	4.41 4.68	0.19	0.56	4.53	4.43 4.59	0.34	0.76
Locus of Control	7	122	4.29	4.15 4.48	0.37	0.80	4.42	4.35 4.53	0.47	0.86

Note. Likert response scale was: 5= Strongly Agree; 4= Agree; 3 = Unsure; 2= Disagree; and 1 = Strongly Disagree.

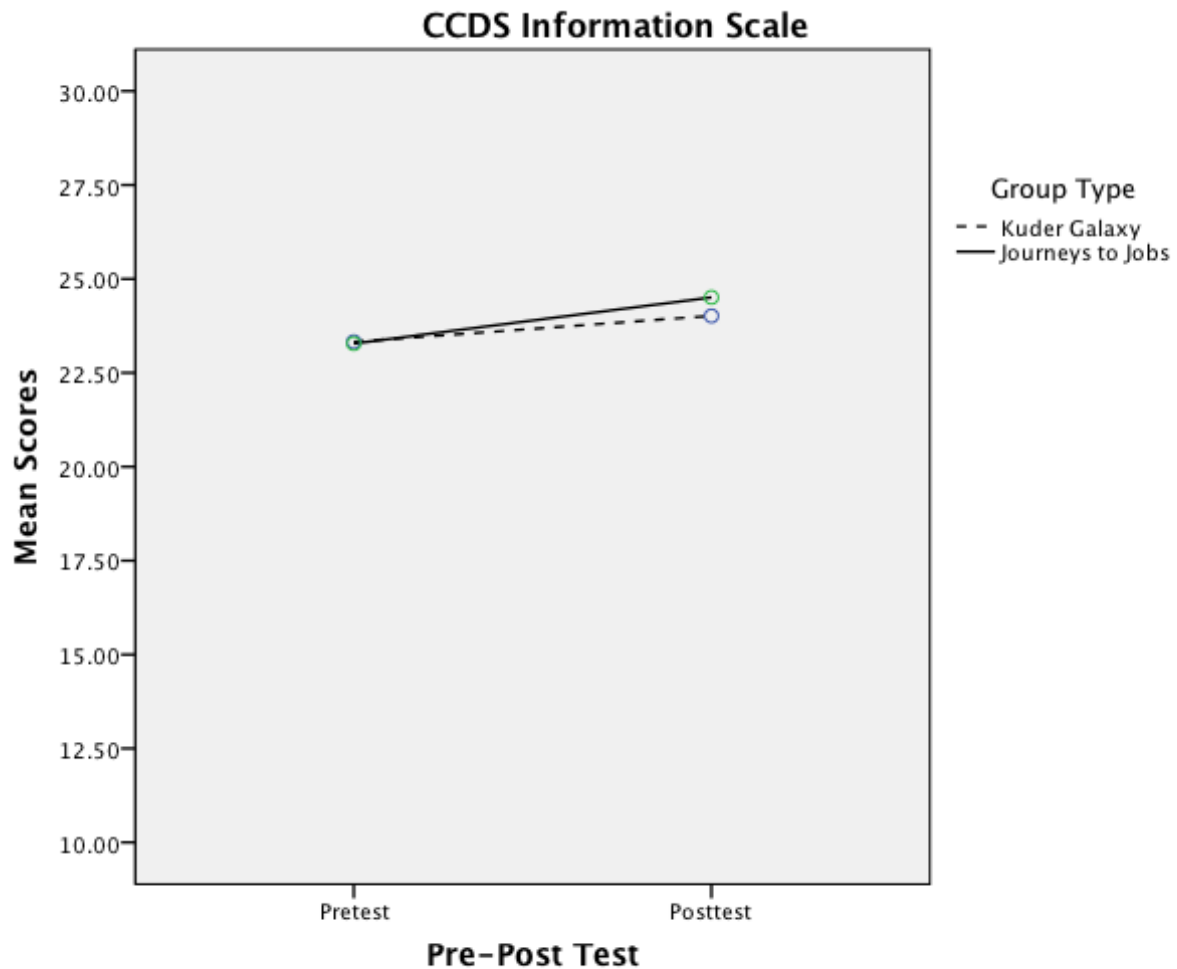
Further results of the pre and post CCDS assessments based on group type (experimental and comparison groups) for the selected subscales are found in the following paragraphs. Results are separated by subscale (information, curiosity, locus of control, and interests) for the proposed research questions.

Information Subscale Results

Data were analyzed using a two-way ANOVA with repeated measures on one factor (information subscale summated scores). The interaction between group and time (pretest and posttest) was not statistically significant, $F(1,120) = .55$; $p = .462$. The means for both the Kuder Galaxy group and Journeys to Jobs group based on pre and post tests are plotted in Figure 1, illustrating the change from pretest to posttest based on group intervention type.

Figure 1

Means for each group pre to post on CCDS Information Subscale



Examination of the within group effect (Pretest to Posttest) did reveal a significant change across time, $F(1,120) = 6.86, p = .010, \eta^2 = .054$. The Journeys to Jobs group revealed significantly higher posttest scores ($M = 24.51, SD = 3.63, N = 61$) compared to pretest scores ($M = 23.28, SD = 4.08$). The Kuder Galaxy group also revealed higher posttest scores ($M = 24.02, SD = 4.20$) compared to pretest scores ($M = 23.33, SD = 3.72, N = 61$). These results indicated that both groups improved very slightly as a result of the treatment intervention. Table 4 shows the comparisons for the two groups.

Table 4

Summary Statistics for Information Subscale Score Comparisons

Group by Time	n	Mean	SD	Mean Difference
Kuder Galaxy				
Pretest	61	23.33	3.72	.69
Posttest	61	24.02	4.20	
Journeys to Jobs				
Pretest	61	23.28	4.08	1.23
Posttest	61	24.51	3.63	

Note. Response scale: (5= Strongly Agree; 4= Agree; 3 = Unsure; 2= Disagree; and 1 = Strongly Disagree).

Tests for the simple between group effect (Kuder Galaxy vs. Journeys to Jobs) revealed no significant differences in the information subscale scores averaged across time, $F(1,120) = .13$; $p = .716$. Table 5 shows changes in scores on the Information subscale of the CCDS from pretest to posttest for both within subjects and between subjects.

Table 5

Repeated Measures Factorial ANOVA Summary Table Examining Changes in Information Subscale Scores

Source	df	SS	MS	F	Sig (2-tail)	Partial Eta ²
Between Subjects						
Group	1	2.99	2.99	.13	.716	.001
Residual Between	120	2694.00	22.45			
Within Subjects						
Time	1	56.10	56.10	6.86	.010	.054
Interaction Time x Group	1	4.46	4.46	.55	.462	.005
Residual Within	120	981.93	8.18			

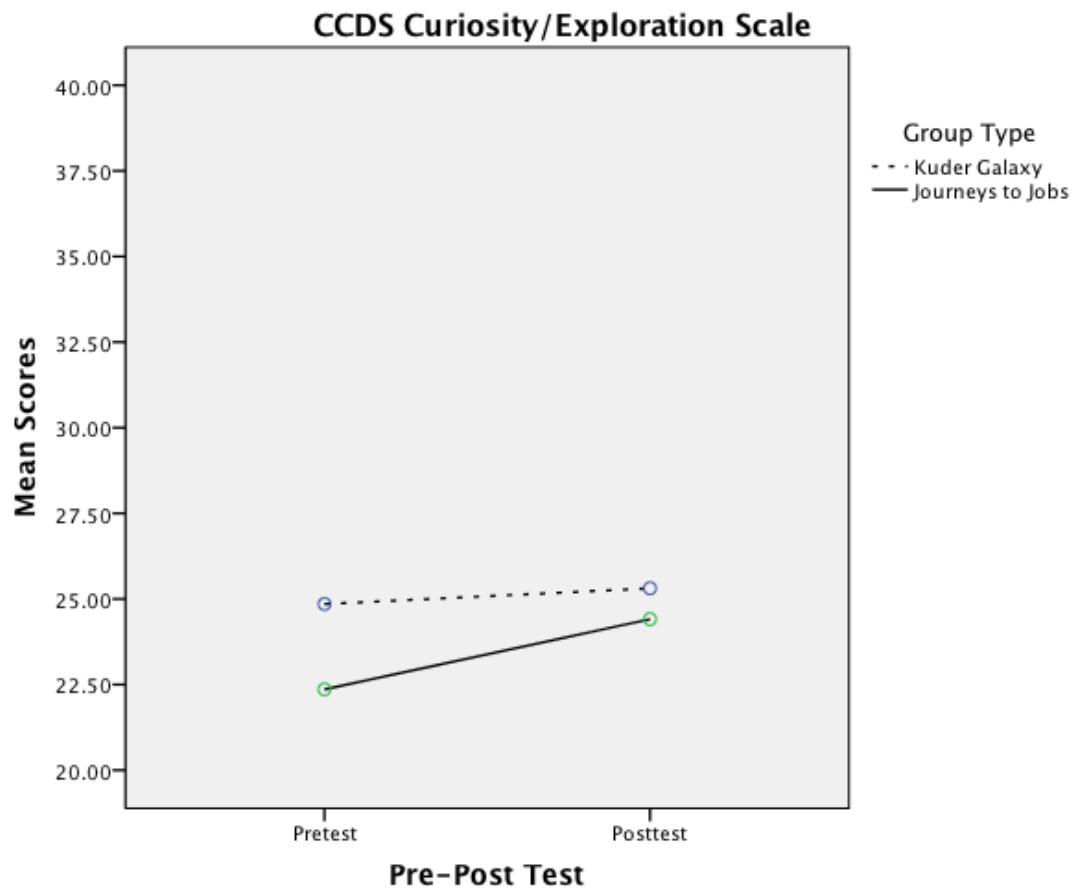
Note. $N = 122$

Curiosity/Exploration Subscale Results

Data were analyzed using a two-way ANOVA with repeated measures on one factor (curiosity/exploration subscale summated scores). The interaction between group and time (pretest and posttest) was statistically significant, $F(1,120) = 4.97$; $p = .028$. The Journeys to Jobs group improved significantly more from pre to post as compared to the Kuder Galaxy group. Partial Eta² was .040, therefore the interaction explained only 4% of the variability in pretest to posttest by group. The means for both the Kuder Galaxy group and Journeys to Jobs group based on pre and post tests are plotted in Figure 2 illustrating the change from pretest to posttest based on group intervention type.

Figure 2

Means for each group pre to post on CCDS Curiosity/Exploration Subscale



Examination of the within group effect (Pretest to Posttest) did reveal a significant change across time, $F(1,120) = 12.36, p = .001, \eta^2 = .093$. The Journeys to Jobs group revealed significantly higher posttest scores ($M = 24.41, SD = 4.38, N = 61$) compared to pretest scores ($M = 22.36, SD = 4.31$). The Kuder Galaxy group posttest scores ($M = 25.31, SD = 4.51$) did not differ significantly from the pretest scores ($M = 24.85, SD = 4.19, N = 61$). Table 6 shows the comparisons for the two groups.

Table 6

Summary Statistics for Curiosity/Exploration Subscale Score Comparisons

Group by Time	n	Mean	SD	Mean Difference
Kuder Galaxy				
Pretest	61	24.85	4.19	.46
Posttest	61	25.31	4.51	
Journeys to Jobs				
Pretest	61	22.36	4.31	2.05
Posttest	61	24.41	4.37	

Note. Response scale: (5= Strongly Agree; 4= Agree; 3 = Unsure; 2= Disagree; and 1 = Strongly Disagree).

Tests for the simple between group effect (Kuder Galaxy vs. Journeys to Jobs) revealed significant differences in the curiosity/exploration subscale scores averaged across time, $F(1,120) = 5.83$; $p = .017$. Table 7 shows changes in scores on the Information subscale of the CCDS from pre to post for both within subjects and between subjects.

Table 7

Repeated Measures Factorial ANOVA Summary Table Examining Changes in Curiosity/Exploration Subscale Scores

Source	df	SS	MS	F	Sig (2-tail)	Partial Eta ²
Between Subjects						
Group	1	175.61	175.61	5.83	.017	.046
Residual Between	120	3612.57	30.11			
Within Subjects						
Time	1	95.94	95.94	12.36	.001	.093
Interaction Time x Group	1	38.56	38.56	4.97	.028	.040
Residual Within	120	931.00	8.18	7.76		

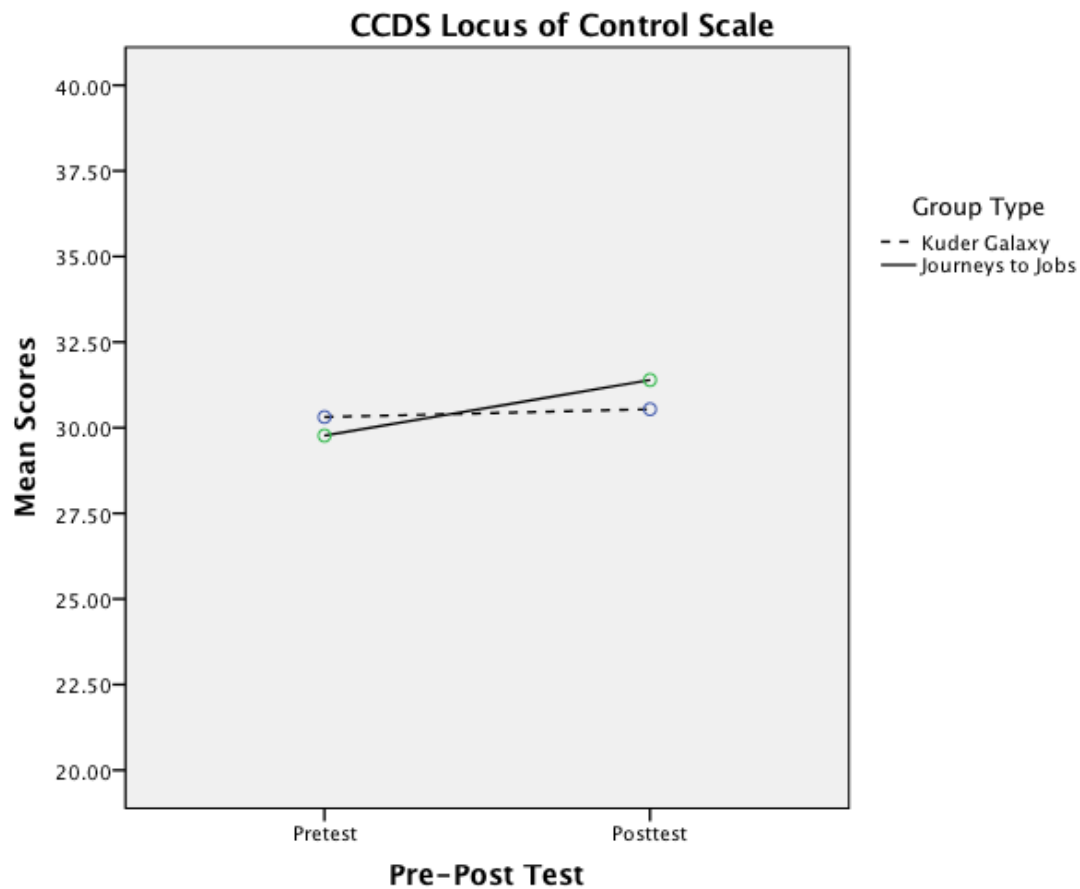
Note. $N = 122$

Locus of Control Subscale Results

Data were analyzed using a two-way ANOVA with repeated measures on one factor (locus of control subscale summated scores). The interaction between group and time (pretest and posttest) was statistically significant, $F(1,120) = 4.84$; $p = .030$. The Journeys to Jobs group improved significantly more from pre to post as compared to the Kuder Galaxy group. Partial Eta² was .039, therefore 3.9% of the variability was explained by the interaction. The means for both the Kuder Galaxy group and Journeys to Jobs group based on pre and post tests are plotted in Figure 2 illustrating the change from pretest to posttest based on group intervention type.

Figure 3

Means for each group pre to post on CCDS Locus of Control Subscale



Examination of the within group effect (Pretest to Posttest) did reveal a significant change across time, $F(1,120) = 8.55, p = .004, \eta^2 = .067$. The Journeys to Jobs group revealed significantly higher posttest scores ($M = 31.39, SD = 4.21, N = 61$) compared to pretest scores ($M = 29.77, SD = 4.75$). The Kuder Galaxy group posttest scores ($M = 30.54, SD = 4.32$) did not differ significantly from the pretest scores ($M = 30.31, SD = 3.81, N = 61$). Table 8 shows the comparisons for the two groups.

Table 8

Summary Statistics for Locus of Control Subscale Score Comparisons

Group by Time	n	Mean	SD	Mean Difference
Kuder Galaxy				
Pretest	61	30.31	3.81	.23
Posttest	61	30.54	4.32	
Journeys to Jobs				
Pretest	61	29.77	4.75	1.62
Posttest	61	31.39	4.21	

Note. Response scale: (5= Strongly Agree; 4= Agree; 3 = Unsure; 2= Disagree; and 1 = Strongly Disagree).

Tests for the simple between group effect (Kuder Galaxy vs. Journeys to Jobs) revealed no significant differences in the locus of control subscale scores averaged across time, $F(1,120) = .05$; $p = .823$. Table 9 shows changes in scores on the Locus of Control subscale of the CCDS from pre to post for both within subjects and between subjects.

Table 9

Repeated Measures Factorial ANOVA Summary Table Examining Changes in Locus of Control Subscale Scores

Source	df	SS	MS	F	Sig (2-tail)	Partial Eta ²
Between Subjects						
Group	1	1.48	1.48	.048	.823	.000
Residual Between	120	3675.02	30.63			
Within Subjects						
Time	1	52.33	52.33	8.55	.004	.067
Interaction Time x Group	1	29.61	29.61	4.84	.030	.039
Residual Within	120	734.56	6.12			

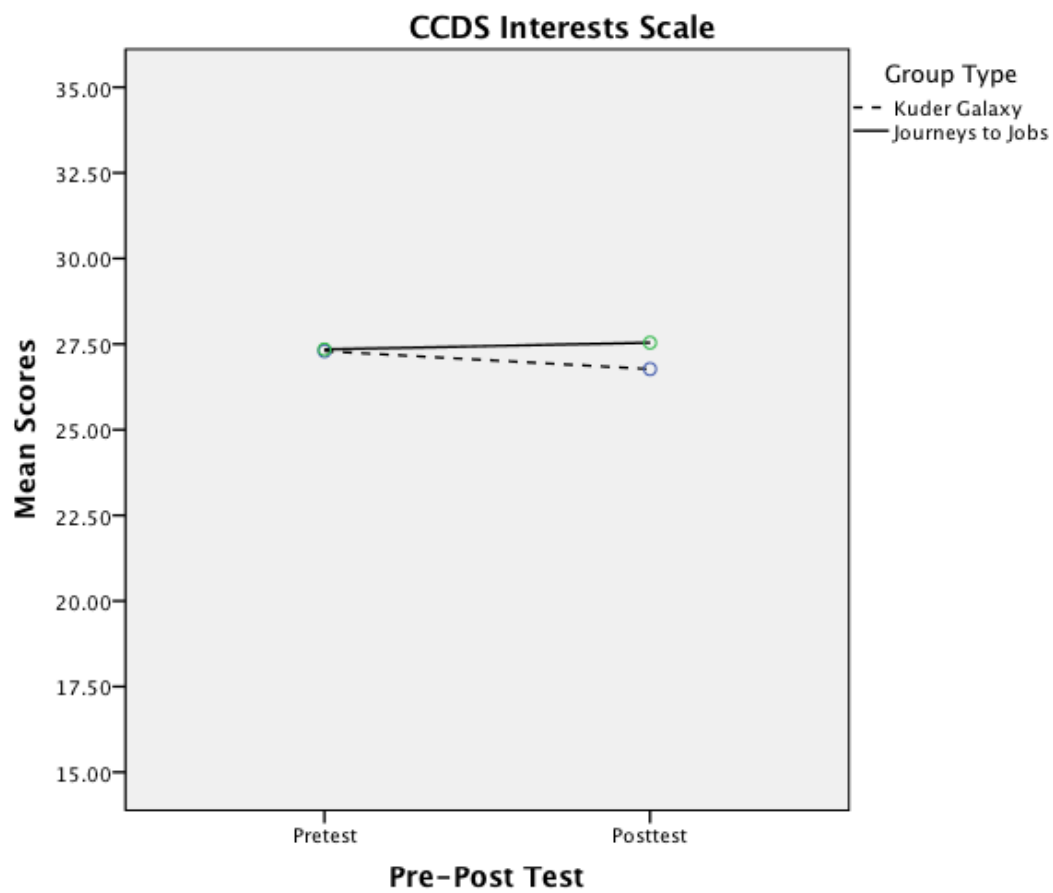
Note. $N = 122$

Interests Subscale Results

Data were analyzed using a two-way ANOVA with repeated measures on one factor (interests subscale summated scores). The interaction between group and time (pretest and posttest) was not statistically significant, $F(1,120) = 1.57$; $p = .213$. The means for both the Kuder Galaxy group and Journeys to Jobs group based on pre and post tests are plotted in Figure 4 illustrating the change from pretest to posttest based on group intervention type.

Figure 4

Means for each group pre to post on CCDS Interests Subscale



Examination of the within group effect (Pretest to Posttest) did not reveal a significant change across time, $F(1,120) = .32$, $p = .570$, $\eta^2 = .003$. Table 10 shows the comparison for the two groups.

Table 10

Summary Statistics for Interests Subscale Score Comparisons

Group by Time	n	Mean	SD	Mean Difference	Sig (2-tail)
Kuder Galaxy					
Pretest	61	27.30	2.46	.53	.220
Posttest	61	26.77	3.42		
Journeys to Jobs					
Pretest	61	27.34	4.08	.20	.617
Posttest	61	27.54	2.57		

Note. Response scale: (5= Strongly Agree; 4= Agree; 3 = Unsure; 2= Disagree; and 1 = Strongly Disagree).

Tests for the simple between group effect (Kuder Galaxy vs. Journeys to Jobs) revealed no significant differences in the interests subscale scores averaged across time, $F(1,120) = 1.01$; $p = .318$. Table 11 shows changes in scores on the Interests subscale of the CCDS from pre to post for both within subjects and between subjects.

Table 11

Repeated Measures Factorial ANOVA Summary Table Examining Changes in Interests Subscale Scores

Source	df	SS	MS	F	Sig (2-tail)	Partial Eta ²
Between Subjects						
Group	1	10.25	10.25	1.01	.318	.008
Residual Between	120	1220.97	10.18			
Within Subjects						
Time	1	1.64	1.64	.324	.570	.003
Interaction Time x Group	1	7.93	4.46	1.57	.213	.013
Residual Within	120	607.43	5.06			

Note. $N = 122$

CHAPTER 5

DISCUSSION

This study examined the effects of a web based career intervention program on elementary school students' vocational development. Participants were randomly assigned to either an experimental group (KGP) or comparison group (JTJ). The experimental group was a web based career guidance program and the comparison group was a traditional career guidance program. Results from this study may help school counselors better understand how children acquire career knowledge and develop awareness about the world of work. It can also guide school counselors in assisting students with their career development journey throughout their education. This chapter provides an overview of the results of this study with respect to hypotheses. The implications this study has for elementary school students, school counselor practice, and future research will also be discussed. In addition, the research design and methodology will be critiqued.

Overview of Study Results

For the four scales examined in this study, two of the four showed significant interactions between group and time. They included the curiosity/exploration subscale and the locus of control subscale. Although both of these subscales showed significant interactions, only 4% (Partial η^2 was .040) of the variance between pre to post on the subscale of curiosity/exploration can be accounted for by the type of group (either KGP or JTJ). This indicates a very small effect size and thus has little practical significance. Additionally, only 3.9% (Partial η^2 was .039) of the variance between pre to post on the subscale of locus of control can be accounted for by the type of group. This is also reflective of a small effect size indicating little practical significance. The subscales for interests and information did not show significant interactions between group and time.

Regarding the interactions that were not significant, such as on the interests and information subscales, a possible explanation for this null result may be that the levels of the independent variable did not provide good examples of career development interventions. It may be uncertain whether the two groups adequately represented the skills that were measured on the CCDS, or career development in general. Secondly, the career interventions that were selected for this study may not represent interventions that exist in the natural world, such as elementary school settings. There is often tension between experimental control and ecological considerations (Heppner, Wampold, & Kivlighan, 2008). The extent to which the groups were similar to non-experimental classroom guidance lessons, would make the results more generalizable to the larger population. However, the increase in generalizability results poses threats to internal validity, as researchers are less likely to attribute differences to isolated differences in the dependent variable.

Although both of the interactions for the subscales of curiosity/exploration and locus of control were statistically significant, the effect size was small for both of those subscales, therefore indicating the results were not practically significant. Both groups did not appear to differ much in their average scores on the CCDS regardless of treatment intervention. This may be attributed to several reasons.

The first is that children possess an inherent curiosity about careers (Gottfredson, 1999; Super, 1990). This curiosity may be reflected in high scores on the pretest measure. When scores are high on the pretest, it is difficult to show the effects attributed to a specific intervention type. Because the CCDS is a self-assessment, it is possible that students may be idealistic about how they perceive themselves. Students may believe that they have more career knowledge than they actually do and those idealized conceptions may impact scores.

Secondly, the small effect sizes may be due to the groups being too similar in scope. Because the learning goals, objectives, introductions, and conclusions were the same for both

groups, perhaps, the interventions did not differ enough from each other. The differences between the two groups should be salient, or noticeable to the participants (Heppner, Wampold, & Kivlighan, 2008). It was not until the third lesson that students realized that their groups were different and verbalized that to the research assistants. Conversely, however, there are dangers when salience is too great. If the participants can infer the research hypotheses from the procedures of the study, there is a possibility that the results may be biased. Researchers often misjudge the salience of the independent variable (Heppner, Wampold, & Kivlighan, 2008). Therefore, it is a delicate balance of maintaining control while still offering generalizability. In order to maximize external validity, researchers should design the experiment to control for as many extraneous variables as possible without disrupting the natural environment of the class within the school (McMillan & Schumacher, 2001).

In this study, some students questioned why they needed to complete the CCDS a second time when they already did it once before. It is possible that students knew that the researchers were examining the amount of learning from the lessons and therefore, they answered questions in certain ways to reflect higher learning. Participants who guess the research hypothesis often respond in ways to please the researcher and confirm that hypothesis (Heppner, Wampold, & Kivlighan, 2008).

Another possible explanation is that neither of the groups received enough of a treatment intervention to show practically significant differences. Rather than four weeks of a treatment intervention, perhaps six or eight weeks may have shown greater improvement. One of the difficulties in planning experimental research is determining if the treatments will be strong enough (McMillan & Schumacher, 2001). In this experiment, it may be difficult to determine whether four sessions of guidance lessons are enough to impact students' attitudes on the CCDS. Lengthening the number of sessions may be difficult to accomplish in an

elementary school, however, as doing so may prevent other educational and instructional activities from occurring. In educational research, several influences affect the dependent variable making it difficult to single out the effects of the independent variable.

For the within group effect, the subscales of information, curiosity/exploration, and locus of control revealed significant changes across time. Therefore, the null hypotheses were rejected for these three subscales. For the information subscale, both groups improved equally as a result of the interventions. For the curiosity/exploration subscale and locus of control subscale, the JTJ group improved more than the KGP group, who improved less. The interests scale did not reveal significant changes across time, therefore the null hypothesis was upheld.

Various explanations may account for why the comparison group improved more than the experimental group. One explanation is that students in the comparison group discussed what students in the experimental group were doing. Several students in the comparison group made comments to the teachers and research assistant that they wish they were able to participate in the other group because that group does fun things like watch videos and play games. These remarks occurred at about the third session. In research, this phenomenon is referred to as compensatory rivalry and it is a threat to internal validity. Compensatory rivalry is where participants in the comparison group may try to outperform participants in the experimental group (Heppner, Wampold, & Kivlighan, 2008). They may desire to prove that they are just as good as the other group, if not better. Because students in the comparison group may believe that they do not need to increase their career awareness, they may work extra hard to show the experimenter that they have already mastered those competencies. A plausible explanation as to why the comparison group scored higher on the CCDS posttest than the experimental group may possibly be attributed to compensatory rivalry, and important threat to internal validity.

It is also possible that experimenter effects may have contributed to the differences in scores between groups. Experimenter expectancies can often affect participant responses (Heppner, Wampold, & Kivlighan, 2008). In this study, the experimenter was not directly involved in the research, since the lessons were taught by assistants. Even so, however, effects may still be present. Although the research assistants assigned to the groups were matched as closely as possible with respect to education level and counseling experience, it is important to recognize that inherent personality characteristics and teaching skills differ among humans. It may be possible that one teacher had superior classroom management and leadership skills in comparison to another and that may have accounted for differences in scores. The relatively low reliability of the measures (except for locus of control) may explain nonsignificant results and low effect sizes.

Counselors, in particular, are often reluctant to withhold programs from participants assigned to control or comparison groups (Heppner, Wampold, & Kivlighan, 2008). As a result, compensatory equalization of treatments may exist and pose a threat to internal validity. This happens when personnel who are involved in the study provide special services to students in the control or comparison group as a method of compensating for the participants' assignment to that group. In school settings, the research assistant assigned to the comparison group may feel bad for that group due to students complaining about missing out on the fun that the other group was having. As a result, better teaching and extraordinary experiences may be offered to the comparison group and may affect, or bias, the scores for those participants.

Participant bias also exists in experimental research studies. Demand characteristics serve as a major source of participant bias (Heppner, Wampold, & Kivlighan, 2008). Demand characteristics are cues within an experiment that influence participants to respond in a certain way. These are often subtle differences or pressures operating in a study that are

sometimes difficult to identify (Heppner, Wampold, & Kivlighan, 2008). In this study, if students guessed that their knowledge from the lessons was being measured as the hypothesis, demand characteristics may have caused them to provide higher responses for items on the assessment. In educational settings, higher scores are traditionally associated with higher grades, so participants may have been conditioned in that particular way.

Participant characteristics may affect how participants respond to demand characteristics. Some examples of participant characteristics include intellectual skills, motivation, psychological defenses and worldview.

It is well known that in educational systems, there is a wide range of abilities in classrooms. Some participants may not have adequate intellectual skills such as reading or writing, in order to be able to adequately complete the assessment. Some may even require a considerable amount of time longer in order to read and complete it.

Motivation is another source of bias. Children, in particular, have a limited attention span and may tire of completing an assignment or task sooner than an adult. As a result, children may circle responses randomly without even reading the questions. This is particularly true for students who struggle in academic areas of reading or writing. In this study, children were incentivized in an effort to increase motivation but the incentive may have not been enough. Alternatively, some participants may have been motivated in the opposite way, to give glowing responses in order to help out the researcher. As evidenced, motivation of participants plays a large role in the results of a particular study.

Psychological defenses are a source of bias as well. This is where participants perceive a real or imaginary threat, which has the ability to consciously or unconsciously affect the responses (Heppner, Wampold, & Kivlighan, 2008). Students may worry about the assessment being a test and be more concerned with providing ideal answers rather than honest ones.

Bias exists in participants' worldview as well. This refers to the beliefs, values, and assumptions that participants have regarding the world around them. To some degree, as humans, we all have them. The research assistants in this study were both young, female, Caucasian, college students. Participants may have reacted a certain way to them, based on those characteristics. This may have been different if their age, race, or gender was different.

For the between group effects of this research study, there were no significant differences for the subscales of information, locus of control, and interests across time. There were significant differences for the subscale of curiosity/exploration across time. Although effects were statistically significant for this subscale, the group intervention only accounted for 5% of the change from pre to post (Partial Eta ² was .046). This indicates a very small effect size and, as with the other effect sizes, has little practical significance.

The above results of this study suggest that elementary aged students are at an appropriate time period in their development and maturation to learn about career exploration and begin making future decisions regarding occupational choices. Classroom interventions appear to have some influence on scores of career self-awareness as demonstrated by the increases in CCDS scores from pre to post on several subscales. Results specific to the hypotheses are outlined below.

Hypothesis One

There will be no significant interactions between time (pretest-posttest) and treatment (online versus non-online) on mean scores for the information subscale of the CCDS for fourth and fifth grade students. This hypothesis was supported since results indicated there was not a significant interaction for this subscale.

Hypotheses Two

There will be no significant interactions between time (pretest-posttest) and treatment (online versus non-online) on mean scores for the curiosity/exploration subscale of the CCDS

for fourth and fifth grade students. This hypothesis was disconfirmed since results indicated there was indeed a significant interaction for this subscale.

Hypothesis Three

There will be no significant interactions between time (pretest-posttest) and treatment (online versus non-online) on mean scores for the locus of control subscale of the CCDS for fourth and fifth grade students. This hypothesis was disconfirmed since results indicated there was indeed a significant interaction for this subscale.

Hypothesis Four

There will be no significant interactions between time (pretest-posttest) and treatment (online versus non-online) on mean scores for the interests subscale of the CCDS for fourth and fifth grade students. This hypothesis was supported since results indicated there was not a significant interaction for this subscale.

Implications for Elementary School Children

The results provide support for the importance of addressing career development in childhood as opposed to waiting until children have reached adolescence and adulthood to begin the career decision-making process (Schultheiss, 2008). Specifically, career guidance interventions offer school counselors and teachers a mechanism by which to address state mandated career development standards in a timely and efficacious manner. School counselors are often met with a plethora of demands placed on their time. The need to address all three counseling components (academic, personal/social, and career development) is paramount to creating and maintaining a comprehensive school counseling program (ASCA, 2005).

Because children are very adept at using technology, online learning systems offer unique benefits (Oblinger & Oblinger, 2005) over traditional direct classroom instruction.

Career development skills are strengthened through the use of interactive games, videos, and other activities capable of stimulating multiple senses simultaneously.

The research in this study showed that, overall, both groups improved as a result of the interventions but the JTJ group improved more compared to the KGP group. These results suggest that online learning systems may be most effective when they are used to facilitate, or augment, the learning process, not to replace it. Furthermore, future studies may wish to examine the amount of knowledge children retain over a period of time as a result of exposure to the two different interventions. Therefore, a follow-up study may be warranted to examine time effects. For example, to determine if children retain more information from the web based or the traditional guidance program over a longer duration of time. This would involve assessing children at 4 weeks and then again at 12 weeks. Examining time effects would help researchers to determine not just the short term but also the long term benefits of web based career interventions at the elementary level.

Career interventions at the elementary level allow children to become more self-aware of their skills, abilities, and interests and how those qualities relate to a future career goal. This linkage is important for children because it will help them to realize that the choices they make now will likely have long term implications as they move into adolescence and adulthood. Furthermore, gaining knowledge about careers is vital as they prepare to enroll in classes that will lead them toward those chosen career goals.

It is important to note that early career exposure does not mean that children must decide on a career that will be a definitive choice as an adult. Rather, it means that children will be exposed to variety of career clusters that they might not otherwise have been exposed to. They will also learn about the world of work in general and how to make informed career decisions.

Implications for School Counselor Practice

Although research acknowledges that we are in the beginning stages of examining career development in children (Hartung, Porfeli, & Vondracek, 2008), continued research examining the process by which children develop self-concept identity and vocational maturity will illuminate our knowledge within the field of career counseling within schools. As more states adopt career standards to be implemented in K-12 public school systems, school personnel will need to respond to those demands with heightened awareness for appropriate and time-sensitive interventions to be included in the classroom as well as counseling curriculum.

The separation between theory and practice in career interventions is noted throughout the literature (Hartung, Porfeli, & Vondracek, 2008). This is largely due to the increasing demands placed on school counselors, which include shrinking budgets, staffing shortages, and lack of understanding the defined role of the school counselor. Computer based career guidance may be an excellent way for school counselors to reach their goal of serving all students since such programs are student initiated and student led. Since time constraints seem to be a major concern for school counselors, web based learning programs may be an effective and efficient use of time to address the career development domain so often neglected at the elementary level.

Career counseling is not necessarily a completely separate domain from academic and personal/social development. Career components may be added to the academic and personal domains of a comprehensive school counseling program, thus allowing for school counselors to weave career aspects into other areas of the counseling curriculum.

Web based career counseling interventions may serve as a tool for school counselors who may not have the time to directly instruct students regarding career development. The cost of utilizing web based programs may be attractive to administrative personnel within

school districts, as it would allow school counselors to have some time freed up for additional responsibilities. However, one of the cautions of using online learning systems solely may be that such systems would come to replace school counselors or teachers as primary learning agents. The role of the school counselor is much more diverse than simply addressing vocational aspects of human development, so careful attention must be given to not diminish the role of the school counselor and his or her varied responsibilities in education.

Implications for Research

ASCA (2005) proposes that all three counseling domains (academic, personal/social, and career) be addressed in equal amounts, thereby reinforcing the need for research in career counseling across the lifespan. This study provides an impetus for further research to follow examining appropriate and effective career interventions to meet the challenges school counselors face in the 21st century.

No studies exist that have examined web based career development in elementary school students so little is known as to the value or benefit it may have on students. Web based learning has been extensively studied in subjects including math and reading, but not in areas such as career development. This lack of research makes it difficult to compare this study with other studies that have been conducted, since they are examining different concepts. It is hopeful that as technology continues to gain popularity in the modern world, that research will begin to catch up with such advances and provide insight into human learning through novel teaching approaches specific to the area of school counseling.

Donald Super is one of the few career development theorists credited with acknowledging that career development is a lifelong process that begins with the growth stage of development (ages 0-15). Linda Gottfredson indicated that vocational choice is a search for a life career that fits one's social and psychological self-concept and guides the person-job matching process during the first two decades of life (Gottfredson, 1996). These

two theorists have provided the foundation for child career development. Contemporary research, however, has been slow to catch up in acknowledging this often forgotten developmental age group.

The strengths and limitations of this research study are delineated in the following paragraphs to provide an overview of the methodology of the study and offer further implications for future research. The advantages and disadvantages of the methods employed are discussed in detail.

Strengths

This study had several strengths. The first is that it is experimental in design. There are six distinguishing characteristics that define experimental research (McMillan & Schumacher, 2001). These include the following: statistical equivalence of participants in different groups through random assignment; comparison of two or more groups; manipulation of at least one independent variable; measurement of each dependent variable; use of inferential statistics; and a design with maximum control over extraneous variables (McMillan & Schumacher, 2001).

Few studies conducted in schools are experimental in nature due to the difficulty for research to be conducted with the stringent guidelines expected, particularly that of employing random assignment or controlling for extraneous variables. Often, schools have classes of intact groups making it difficult to use random assignment in assigning participants to conditions or there are factors inherent in school systems that are difficult for researchers to exert influence over. This study has been successful in maintaining the rigor of true experimental designs by attending to these six characteristics. The experimental method is regarded as the best approach for determining causal effects because of the degree of control over extraneous variables and the ability to manipulate variables (McMillan & Schumacher, 2001).

The methodology of this study is also believed to be well planned out and strong. Several effects were controlled for as part of the experimental design. The first is researcher bias. To remove any effect the researcher, building school counselor, or building teachers might have, advanced level school counseling graduate students, employed as research assistants, served as the teachers for the guidance lessons. This was considered superior to having employees of the school serve as the teachers, or facilitators for the lessons. The research assistants were close in chronological age and had the same level of experience and education within the field of school counseling. This strategy was employed so that teacher effects were controlled for.

Secondly, the groups were run simultaneously in different rooms. Therefore, there were two facilitators who were trained in teaching guidance lessons in career development providing the treatment, or intervention, at the same time. To control for human attention and interaction, the two groups began and ended with the same five minute activity or discussion that was scripted for the facilitators as part of a larger lesson plan. This was kept constant for both groups since previous research emphasized findings that individuals respond more favorably to career interventions that involve human connection rather than just computerized interventions alone (Niles & Garis, 1990). Therefore, it was the aim of this study to keep human interaction as consistent as possible between the two groups. The time allotted for the guidance lessons was maintained at 45 minutes in length for both groups with five minutes for an introduction and five minutes for a conclusion.

The curriculum chosen for the two groups was done so with the idea of future replication in mind. Because there is such a vast amount of career resources available for purchase in use with children, it was necessary to choose curriculum that could be easily replicated in future studies. The JTJ is a single book that contains exactly four career guidance lessons connected to the ASCA career standards and specific to the ages and grades

of the children in this study. Other curriculum that was considered was not as specific to the needs of this study. Furthermore a single book was considered to be superior to lessons selected from several different resources. Four is considered the average number of lessons within a developmental guidance unit. This number is considered standard practice in school counseling.

This study also had a robust sample size and equivalent groups for both the experimental and comparison groups. This is particularly important when it comes to the analysis and interpretation in comparing the two groups by examining within and between subjects effects. With respect to the robust sample size, there was very little attrition in this study and attendance of participants in the weekly guidance lessons was favorable due to the positive reinforcement system that was used as part of the design of the study. Participants in both the experimental group and comparison group were incentivized in the same manner for participating in the four weekly guidance lessons.

Limitations and Suggestions for Future Research

There are several limitations that should be noted in this study. Because the CCDS is a self-report measure of career awareness, children may have only a limited awareness of their career behaviors. Thus, future research may benefit from the use of qualitative methodologies (e.g., observations, interviews, focus groups) to assess the career development of elementary aged students. Though it is noted that career exploration begins in childhood, it is possible that there may be optimal periods within childhood to address career decision-making skills based on children's cognitive, verbal, and written capacities (Schultheiss, Palma, & Manzi, 2005).

In that same vein, given the CCDS is a self-report measure, it is also possible that children may answer questions more positively on the CCDS (higher levels of agreement with statements) for the purposes of their teacher and peers, known as the social desirability

effect. Particularly with the posttest measure, students may rate their career awareness and learning higher so that the teacher of the lessons feels reinforced in knowing how much students benefited as a result of the curriculum within the groups. Children who scored mostly 4's and 5's on the items (indicating higher levels of agreement), in psychometric terms, may indicate that the instrument has a low ceiling, or high floor, and may not likely measure higher levels of the construct. Because the instrument does not measure higher levels of the constructs, this may explain the low effect sizes in this study.

It should also be noted that, in this study, only fourth and fifth grade students were sampled. Because Super (1990) proposed a lifespan-lifespace theory beginning in preschool, it is possible that the findings in this study may be limited to middle and later childhood. Therefore, future research should focus on examining career exploration and developmental changes across a broader span of the elementary years since past research has focused mainly on later childhood and adolescence (Wood & Kaszubowski, 2008). Furthermore, future research may also want to examine elementary aged children longitudinally to determine developmental changes children experience. Past research (Helwig, 2004) has indicated that there are significant changes in career behaviors across a ten-year period as children mature from childhood into adolescence.

This study had little diversity as shown by the demographics of the elementary school students who participated. Although there is not much research examining career needs of culturally diverse child populations, the research conducted by Bobo, Hildreth, and Durodoye (2008) examined the changing patterns of career choices among African-American, Hispanic, and Anglo children with results indicating children expressed career interests based more on gender and their own personal experiences than race and/or ethnicity. Because of such limited research, however, additional studies are needed to further investigate this phenomenon. Future research should consider sampling children from diverse geographic

regions including urban, suburban, and rural settings to better determine the influence that geographic region has on career awareness and behaviors. Children sampled from other regions of the world would help in determining the effects that web based career interventions and standard career interventions have on children cross-culturally. Selecting students representing various ethnicities and socioeconomic levels would be helpful in generalizing the results of this study to the larger population of elementary aged students both within the United States and abroad. This would also increase external validity.

Another limitation of this study is the selection of the curriculum for the career guidance lessons. There were only two curricular approaches that were used in this study, although there is a plethora of materials that exist for the purposes of teaching career guidance to elementary students. Despite the abundance of materials, the researcher had a difficult time determining, scientifically, which curriculum should be employed and decided based on the objectives outlined in the methodology chapter. Little to no empirical literature exists in guiding school counselors and practitioners toward specific materials that show efficacy in teaching career development to children or in offering solid interventions based on research. In fact, few career based interventions for children have been examined previously, yet ASCA prescribes career development for all students. This is contrary to the notion that children have definite ideas about what they would like to be when they grow up as well as what talents and skills they possess. Although children have interest in careers, research is lacking in interventions to help assist children to further develop those skills. Future research should examine other career interventions (both web based and standard).

Comparing the KGP to the JTJ may be unfair in some ways, as the JTJ was designed for classroom guidance specifically and the KGP was not. The KGP is an independent, self-directed career exploration program that may be infused into classroom guidance lessons but does not have to be utilized through those means alone. Because the JTJ is more time

intensive and largely dependent upon specific curriculum and led by a teacher or counselor, the advantage of the KGP may be that it is more economical in terms of counselor and teacher time. However, in order for the KGP to be accessible to all elementary students, large numbers of computers must be purchased by school districts and be made available to students. This cost may offset some of the advantages of saving time and money.

As technology weaves its way into the curriculum of basic education through higher education, it is likely that other web based career development programs may come into existence. Because of the novel approach of KGP and use of technology, it would be important to determine if other career guidance lessons (web based or traditional) would show promise as a possible career guidance intervention.

Because there were only four sessions, it is possible that there was not enough exposure to the treatment, or intervention itself (either KGP or JTJ) to produce a significant increase in scores. Perhaps, if the number of lessons was increased from four to six in total, the gain may have been more substantial. Future research may want to consider increasing the number of sessions or exposure to the treatment. It is recognized, however, that increasing the number of sessions may be challenging particularly because counseling services often compete with other special subject areas not to mention core curriculum that needs to be covered in an academic year. For the KGP, the impact of using the entire system as compared to using just a portion (as was the case for this study) may have profound effects on the overall efficacy of the intervention in total. Future studies may wish to expose children to the KGP intervention in total, which will likely result in increasing the number of sessions as well.

With respect to the experimental group, there were several challenges that came along with the career guidance instruction. Using web based career technology in the classroom is dependent upon the proper functioning of the program as well as the computer itself and the

logistics and mechanics of individual usage. Some of the challenges encountered, as part of this study will be discussed in the following paragraphs.

In the first lesson for the experimental group, the same general password was given to all participants, at the recommendation and agreement of the representatives of the Kuder Galaxy Company (KGC). The rationale for this was that all students would be working on the same programs within the system so there was not a need for individualized passwords. Typically, the way the system works, each student would have his or her own password and would be able to access the system from both home and school. Because students were part of a research study, the researcher did not want the students to access the program from home as it may create a confounding variable. In this case, some of the students would have additional exposure to the treatment. Therefore, initially, in the study, it was considered superior to create a general password for all students in a particular grade level.

The main problem with using the same general password was that activities have a maximum allotment of plays until an error message reads that the student has played the maximum allotment for a specified activity and to please come back tomorrow. This usually occurs after about 5 plays. With classes averaging 25 students per group, students were locked out of certain activities, despite their attempts to access them. The instructor of the experimental groups, however, had additional logins and passwords to supplement that first session so that students were still able to access various activities (albeit different from each other) and maximize their time on the system.

Prior to the second session, the KGC supplied individual usernames and passwords for each student assigned to the KGP group. However, participants encountered difficulties with using the usernames and passwords. Several of them registered as invalid upon attempts to access the system. Because of this, some participants were not allowed access, while others had correctly functioning login information and were able to use the system with ease. This

was frustrating to several students in the group who could not gain access to the system while others were successful at logging in and completing activities. The reason for this discrepancy was that the representatives of the KGC provided login information for the wrong grade level and that is why some of the usernames and passwords were incorrect and therefore invalid. Similar to the first session, the facilitator of the group had a few supplemental usernames and passwords to give to students. Students had to share those so that they were able to effectively complete the assigned activities for that day.

To remedy the situation regarding the usernames and passwords, the KGC recommended that the researcher access the teacher dashboard for the KGP to add students and then obtain additional usernames and passwords that were valid for the particular grade level. When the researcher attempted to do this, there was an error message that was retrieved saying that there were no enrollment slots remaining for the school and to please contact the school administrator for more information. The KGC was contacted again and the representative added enrollment slots. The researcher was then successful in creating additional student profiles with usernames and passwords.

In the third session, the school district updated their filter software and some of the participants (the fifth grade group in the morning) were not able to gain access to the KGP website at the start of the session. So, students started with the worksheets assigned for that day while the researcher made phone calls to the district web administrator to unblock the site so that students were able to gain access. The site was successfully unblocked and students in that group were given additional time to complete activities in the fourth session. This session occurred the following week. The additional 15 minutes added to the fourth session was to recover the time that was lost for that group because of the website being blocked. The remaining two groups (both fourth grade classes) were not affected by this issue so they were

taught according to the original schedule and plan. Thus, only one group out of the three was affected by website being blocked.

After the various problems with usernames and passwords were eliminated and access to the KGP site was restored, completion of the career development activities within the site was completed with ease. There were, however, several issues inherent in the functioning of the system that interferes with using it for large classroom guidance lessons. These will be discussed in the following paragraph.

The KGP is configured in such a way so that it is to be used individually by students. Typically, students get to choose which activities they engage in, games they play, and videos they watch. Thus, the program is directed by the user, in this case, the student participant. Although this study allowed for some choice in activities, such as the child's choice of videos to watch, many of the activities were standard for the whole group since the lessons were taught as a class. Keeping the lessons standardized helped to exert more control over the conditions of the experimental group.

Maintaining control, however, does not come without challenges. The first challenge is that although students were instructed to complete specific activities for each lesson, there was no way that the instructor could limit them in clicking on other activities that were not to be completed as part of the lesson. For example, if a child was distracted by the visual stimuli of a certain game choice on the screen, that student may be tempted to click to play that activity rather than the one that the instructor is telling them they need to do. At times, the researcher and the assistant would find students who were clicking on other activities that were believed to be more exciting than the one that they were being asked to complete. Or, in some instances, students may have exited the program entirely to search the web or access a different educational website. The facilitator of the group and the assistant attempted to

control for that by walking around the room and repeating directions, however, it is impossible to prevent this issue entirely.

The KGP group intervention may have been more effective if the facilitator was able to access the teacher dashboard and select only specific activities that students would have access to on a certain day. This would eliminate students being tempted to engage in other activities, perhaps ones with greater allure, that were not related to the objectives of the lesson.

In the development of the KGP program at this point, controlling settings is not an option for facilitators. They can discern which activities relate to certain standards, clusters, or academic areas, but they cannot limit what the student views on the screen. There is no way for teachers or facilitators to make modifications to what the students can see or access by means of the teacher dashboard. For using this program in classroom guidance, providing an option for limiting or restricting range of activities would be useful so that students can complete the activities together, as a class, in some sort of sequential order.

A hierarchy of skills developed, or creating an order or linkage of the activities completed in each grade level from lesson to lesson may be important considerations for the further development of the KGP program. This is one salient difference between the KGP and the JTJ. The JTJ, by contrast, has four lessons that build upon each other. Later skills learned build on earlier skills and there are connections to be made between the lessons.

The KGP requires users to play a certain number of spotlight activities in order to unlock reward activities. The idea is that students are forced to complete specific activities before they can gain access to, or unlock, other activities. However, the skills acquired from the spotlight activities do not seem any different from those in the rewards activities so it is uncertain why there is a distinction in categories.

In addition, because certain activities are locked, teachers or facilitators exert little control over which activities students can actually engage in. For example, teachers may wish to have students complete a specific activity but if the students have not completed the specified number of spotlight activities first, they will not be able to access the reward activity that the teacher has chosen. This greatly limits the selection of activities that teachers can assign students to complete.

In order for the KGP to be more suitable for classroom guidance lessons, several of the changes listed above should be addressed. Students who access the program individually as part of independent time in the classroom, or use it at home, will likely use the program in the way that it has been intended. However, the program asserts that it can be used in classrooms as part of a guidance curriculum. Although it definitely could be, there are considerations to take into account when doing so just like the ones outlined above.

The reliability of the measure used to assess children's career awareness may also be in question. Reliability coefficients did not indicate strong reliability as represented by Chronbach's alpha for this study. Typically, reliability coefficients should be .70 or higher. Such reliability, according to those standards, was not obtained for all of the subscales examined in this study. Reliability, as reported by previous researchers, is similar to that obtained in this study (need citation).

Based on the limitations discussed above, school counselors and counseling practitioners should be cautious in applying the findings of this study to the general population of elementary aged children. However, it has been shown that career interventions do seem to have an impact on the career awareness and exploratory behaviors of elementary aged children as evidenced by the increase in scores on the CCDS from pre to post for several subscales.

Conclusion

The purpose of this study was to assess how children's career awareness perceptions and behaviors were impacted by classroom guidance intervention approaches. Using inferential and descriptive statistics, this study showed that children are indeed impacted by the kinds of career interventions schools provide to help young students learn more about the world of work and uncover skills, abilities, and interests that translate into preparing for one's future career.

Although scores increased for students who were in the JTJ group more than those in the KGP group overall, it is uncertain whether this change occurred as a result of the human interaction component, curriculum differences in groups, or the differences in the teaching styles of the assistants or learning styles of the students. However, this study does show promise that children are impacted by their experiences and that opportunities can be provided by school counselors to help enrich those experiences. By school counselors understanding the vital role they play in guiding children to maximize their full potential in the area of career development, they will create opportunities for students to make linkages from the school world to the work world.

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APPENDIX A

CAREER DEVELOPMENT DEMOGRAPHIC QUESTIONNAIRE (CDDQ)

Please circle your response to the following questions:

1. Age: 9 10 11 12
2. Grade: 4 5
3. Gender: Male Female
4. My **most** favorite school subject is (**Circle Only ONE**):
 Reading Language/Writing Mathematics Science/Social Studies
5. My **most** favorite special subject is (**Circle Only ONE**):
 Art Music Physical Education/Gym Keyboarding Nutrition
6. The career fields that interest me the most (**Circle ALL that apply**)
 Communication & Information Systems (Author, Website Designer, Singer)
 Business, Marketing, & Management (Accountant, Sales Representative, Shop owner)
 Industrial, Manufacturing & Engineering Systems (Architect, Assembly Line Worker, Construction worker)
 Human Services and Resources (Therapist, Teacher, Lawyer)
 Health Sciences (Doctor, Nurse, Athletic Trainer)
 Environmental & Agricultural Systems (Farmer, Environmental engineer, Greenhouse worker)
7. When I grow up, the job I hope to have (my dream job) is
 _____.
8. In order to work in my dream job, the amount of education (# of years) I will need to receive is (**Circle Number**):
9. 0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8
 High school Vocational/ technical school College
 Graduate/Medical/Professional

APPENDIX B

CHILDHOOD CAREER DEVELOPMENT SCALE (U.S. VERSION)

Donna E. Schultheiss, Ph. D., and Graham B. Stead, Ph.D.

INSTRUCTIONS

PLEASE COMPLETE THE FOLLOWING QUESTIONNAIRE

There are 52 questions on this questionnaire. Answer the questions by circling one of the responses on the right hand side of the page. You may circle only **ONE** response.

The abbreviations are explained below.

SA – STRONGLY AGREE (I AGREE

A LOT) A – AGREE

U – UNCERTAIN (I AM

NOT SURE) D – DISAGREE

SD – STRONGLY DISAGREE (I DO NOT AGREE

AT ALL). Please do the following examples:

a. I like chocolate ice-cream

b. I like spinach

c. It will rain two weeks from today

SA	A	U	D	SD
SA	A	U	D	SD
SA	A	U	D	SD

THANK YOU FOR YOUR PARTICIPATION.

SA = Strongly Agree; A = Agree; U = Uncertain; D = Disagree; SD = Strongly Disagree

1.	I wonder about different jobs	SA	A	U	D	SD
2.	I wonder about the things I learn in school	SA	A	U	D	SD
3.	I am curious about the things I learn in school	SA	A	U	D	SD
4.	My family says that I am curious about things	SA	A	U	D	SD
5.	My friends say that I am a curious person	SA	A	U	D	SD
6.	I like to explore my world by visiting libraries	SA	A	U	D	SD
7.	I read books to learn new things	SA	A	U	D	SD
8.	I try to find out more about what I learn at school	SA	A	U	D	SD
9.	I want to get more information about jobs	SA	A	U	D	SD
10.	It is important for me to get information about jobs	SA	A	U	D	SD
11.	A person needs information about different jobs in order to choose a job	SA	A	U	D	SD
12.	I need more information to choose my favorite job	SA	A	U	D	SD
13.	I would like more information on the types of jobs there are where I live	SA	A	U	D	SD
14.	I know what games I like to play	SA	A	U	D	SD
15.	I know what subjects I like in school	SA	A	U	D	SD
16.	I know what kinds of books I like to read	SA	A	U	D	SD
17.	I know what sports I like to play	SA	A	U	D	SD
18.	I have control over how well I do on my schoolwork	SA	A	U	D	SD
19.	I have control over the things I do	SA	A	U	D	SD
20.	I have control over how much I study for tests	SA	A	U	D	SD
21.	I have control over how I act with my friends	SA	A	U	D	SD
22.	I have control over what I say to people	SA	A	U	D	SD
23.	I have control over how hard I work	SA	A	U	D	SD

SA = Strongly Agree; A = Agree; U = Uncertain; D = Disagree; SD = Strongly Disagree

24.	I have control over how much effort I put into my work	SA	A	U	D	SD
25.	I want to do the same job as someone I look up to	SA	A	U	D	SD
26.	I know people who are important to me	SA	A	U	D	SD
27.	I know people who I want to be like	SA	A	U	D	SD
28.	I know people who have my favorite job	SA	A	U	D	SD
29.	I know people who have very interesting jobs	SA	A	U	D	SD
30.	I know people I look up to	SA	A	U	D	SD
31.	I think about the job I might have after I finish school	SA	A	U	D	SD
32.	Practicing now will help me to do things better in the future	SA	A	U	D	SD
33.	I think a lot about what I will be when I grow up	SA	A	U	D	SD
34.	I think about where I will work when I'm grown up	SA	A	U	D	SD
35.	I know what kind of friend I am	SA	A	U	D	SD
36.	I know what type of person I am	SA	A	U	D	SD
37.	I know what I am like	SA	A	U	D	SD
38.	I know what kind of a worker I am	SA	A	U	D	SD
39.	I know what kind of a student I am	SA	A	U	D	SD
40.	I know what I am like as a person	SA	A	U	D	SD
41.	I know what I am good at	SA	A	U	D	SD
42.	It is important to plan for the future	SA	A	U	D	SD
43.	It is important for me to plan things out before I do them	SA	A	U	D	SD
44.	It is important for me to have a plan when I do a project	SA	A	U	D	SD

SA = Strongly Agree; A = Agree; U = Uncertain; D = Disagree; SD = Strongly Disagree

45.	It is important for me to plan how I will get my work done	SA	A	U	D	SD
46.	It is important for me to plan what I will do before I do it	SA	A	U	D	SD
47.	It is important for me to plan when I do school projects	SA	A	U	D	SD
48.	I know planning is important	SA	A	U	D	SD
49.	It is important to plan out my work	SA	A	U	D	SD
50.	It is important to have a plan when I do things	SA	A	U	D	SD
51.	It is important to plan now for my future job	SA	A	U	D	SD
52.	It is important to plan now for what I will be when I grow up	SA	A	U	D	SD

Thank you for completing this questionnaire.

APPENDIX C

E-mail Consent for Use of Childhood Career Development Scale

From: Donna E Schultheiss <d.schultheiss@csuohio.edu>

Date: Tue, Apr 17, 2012 05:51 PM

Subject: Re: Childhood Career Development Scale (CCDS)

To: jac704@psu.edu

CC: jgt3@psu.edu

Hi Julie,

Thank you for your interest in our measure. I am happy to help. I have attached the measure and scoring information. Below I have listed some references and have attached the presentations which have yet to submit for publication.

I hope this is helpful.

Best of Luck with your research.

Donna Schultheiss

Stead, G. B., & Schultheiss, D. (2010). Validity of Childhood Career Development Scale Scores in South Africa. *International Journal of Educational and Vocational Guidance, 10*, 73-88.

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-----"JULIE CERRITO" <jac704@psu.edu> wrote: -----

To: d.schultheiss@csuohio.edu

From: "JULIE CERRITO" <jac704@psu.edu>

Date: 04/17/2012 05:07PM

Cc: jgt3@psu.edu

Subject: Childhood Career Development Scale (CCDS)

Hi Dr. Schultheiss,

My name is Julie Cerrito and I am a current doctoral student at Penn State University. I am also an elementary school counselor. Dr. Jerry Trusty is my advisor and he provided me your e-mail address in order to contact you regarding your child career research.

For my dissertation, I am planning a study examining career interventions with elementary school students and I was hoping to use the Child Career Development Scale (CCDS) as one of my measures. Would you be so kind to send me the survey or inform me how I might be able to access it? Can you also send me any reliability or validity data regarding the measure?

I thank you in advance for your assistance and appreciate your help. I look forward to hearing from you soon!

Kind regards,

Julie Cerrito

Julie A. Cerrito, M.S., NCC, NCSC

Doctoral Candidate, Counselor Education and Supervision

Editorial Assistant, Journal of Counseling & Development

The Pennsylvania State University

APPENDIX D

SCORING KEY: CHILDHOOD CAREER DEVELOPMENT SCALE

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And

Graham B. Stead
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Elizabeth – Vista Campus Pvt. Bag X613, Port
Elizabeth 6000
South Africa
Graham.Stead@nmmu.ac.za

Instructions: The items are scored on a Likert-type scale as follows: Strongly Agree = 5, Agree = 4, Unsure = 3, Disagree = 2, and Strongly Disagree = 1. There are NO reversed scored items. For each scale, add the scores for each item.

Scales	Items
Information (6):	1, 9, 10, 11, 12, 13.
Curiosity/Exploration (7):	2, 3, 4, 5, 6, 7, 8.
Interests (6):	14, 15, 16, 17, 26, 41.
LOC (7):	18, 19, 20, 21, 22, 23, 24.
Key Figures (5):	25, 27, 28, 29, 30.
Time Perspective (4):	31, 33, 34, 52.
Planning (11):	32, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51.
Self-Concept (6):	35, 36, 37, 38, 39, 40.

APPENDIX E**BERWICK AREA SCHOOL DISTRICT**

**500 LINE STREET
BERWICK, PENNA. 18603
TELEPHONE 570-759-6400**

**Wayne D. Brookhart
Superintendent**

**M. Holly Morrison
K-12 Curriculum Director**

**Christina B. Martz
Business Manager**

Dear Institutional Review Board Members at the Pennsylvania State University:

This letter is being written on behalf of Julie Cerrito, who is a Ph.D. candidate and doctoral student in Counselor Education at the Pennsylvania State University, University Park, PA. This letter is verifying agreement of our institution to allow her to conduct research at Salem Elementary School in the Berwick Area School District.

As the building principal of Salem Elementary School, I have discussed and agreed to allow Ms. Cerrito, who is also our building school counselor, to conduct her dissertation research regarding children's career development.

I verify that Ms. Cerrito has met and discussed her research with myself, the district superintendent, Mr. Brookhart, and the district curriculum director, Mrs. Morrison. All parties have agreed to allow her to collect data and conduct research with the students at Salem Elementary School while maintaining necessary ethical research standards.

If I may be of further assistance, please do not hesitate to contact me at 570.759.6400, ext. 3300.

Sincerely, Sally Definnis, Principal at Salem Elementary School

APPENDIX F

IRB Approval



Vice President for Research Office for Research Protections

February 06, 2013

The Pennsylvania State University The 330 Building, Suite 205

Phone : (814) 865-1775 Fax: (814) 863-8699 Email : orprotections@psu.edu Web :

www.research.psu.edu/orp

Date: From:

To: Re:

IRB Protocol ID: Follow- up Date: Title of Protocol:

The Office for Research Protections - FWA#: FWA00001534 Stephanie L. Krout,
Compliance Coordinator

Julie A. Cerrito Determination of Exemption

41468 February 5, 2018

An Examination of Career Guidance Programming on Elementary School Students'
Vocational Development

The Office for Research Protections (ORP) has received and reviewed the above referenced eSubmission application. It has been determined that your research is exempt from IRB initial and ongoing review, as currently described in the application. You may begin your research. The category within the federal regulations under which your research is exempt is:

45 CFR 46.101(b)(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

Given that the IRB is not involved in the initial and ongoing review of this research, it is the investigator's responsibility to review [IRB Policy III "Exempt Review Process and Determination"](#) which outlines:

- ☐ What it means to be exempt and how determinations are made
- ☐ What changes to the research protocol are and are not required to be reported to the ORP
- ☐ Ongoing actions post-exemption determination including addressing problems and complaints, reporting closed research to the ORP and research audits
- ☐ What occurs at the time of follow-up

Please do not hesitate to contact the Office for Research Protections (ORP) if you have any questions or concerns. Thank you for your continued efforts in protecting human participants in research. This correspondence should be maintained with your research records.

APPENDIX G

Participant Invitation Letter

Dear Parent/Guardian:

As part of a developmental and comprehensive school counseling program at Salem Elementary School, guidance lessons are provided to all students in Grades K-5 on a variety of topics throughout the school year.

This year, in fourth and fifth grade, the topic of career awareness will be discussed. As many of you know, I am in the process of completing my doctoral degree at the Pennsylvania State University in Counselor Education. These lessons are part of my research study for my degree. Although these activities are associated with research, they do not differ from those which are considered typical or customary of the elementary guidance program we already have in place. The guidance lessons will be taught by advanced graduate counseling students and supervised by myself. Attached to this letter, you will find an informed consent form which includes more specific information about this study.

If you wish to have your child participate in this research study, please read the attached sheet and keep it for your reference. **You do not need to return it.** If you do not wish to have your child included as part of this study, please contact me at (570) 759-6400, ext. 3303.

Sincerely,

Julie A. Cerrito, M.S., NCC, NCSC

Ph.D. Candidate, The Pennsylvania State University

School Counselor, Berwick Area School District

APPENDIX H

Informed Consent Form

Implied Informed Consent Form for Social Science Research

The Pennsylvania State University

- Title of Project:** Elementary School Students and Career Exploration
- Principal Investigator:** Julie Cerrito, Graduate Student at the Pennsylvania State University
School Counselor at Salem Elementary School
810 East Tenth Street
Berwick, PA 18603
(570)759-6400, ext. 3303
jcerrito@berwicksd.org
- Advisor:** Dr. Jerry Trusty, Professor at the Pennsylvania State University
Department of Educational Psychology, Counseling, and Special Education
327 CEDAR Building
The Pennsylvania State University
University Park, PA 16802-3110
(814) 863-7536
jgt3@psu.edu
1. **Purpose of the Study:** The purpose of this research study is to explore how elementary school students develop career awareness. Also of interest is how children gain information about the world of work through school counseling guidance lessons.
 2. **Procedure to be followed:** Each student in fourth and fifth grade will be asked to complete a survey about their personal career awareness both before and after participating in a series of guidance lessons related to child career development.
 3. **Duration:** It will take about 15 minutes for each student to complete the survey. Students will also receive 4 whole classroom guidance lessons with each lesson lasting about 45 minutes in length.
 4. **Statement of Confidentiality:** Your child's participation in this research is confidential. The survey does not ask any information that would identify who the responses belong to. The data will be stored and secured in the Salem guidance office in a locked file. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your child's name is in no way linked to his or her responses.
 5. **Right to Ask Questions:** Please contact Julie Cerrito at (570) 759-6400, ext. 3303 with questions or concerns about this study.
 6. **Voluntary Participation:** Your decision to have your child participate in this research is voluntary. You can decide to have your child stop at any time. Your child does not have to answer any questions that he or she does not want to answer or participate in any classroom activities that he or she does not want to.

It is not required that you return this consent form to have your child participate in this study. If you do not wish to have your child participate, please contact your child's school counselor, Julie Cerrito, at 570-759-6400, ext. 3303 and your child's information will not be included in this research study. Otherwise, please keep this form for your records or future reference.

APPENDIX I**Child Assent Procedure**

Julie Cerrito, researcher at The Pennsylvania State University and Elementary School Counselor in the Berwick Area School District, has described the study regarding children's career development in terms that students understand and has obtained verbal child assent from participants for this study.

Signature of Researcher: _____

Signature of Witness: _____

Date: _____

APPENDIX J

Lesson 1 Career Development Research

Objective: Students realize that careers are the reflection of a person's talents and interests.

Goals:

- To introduce the concept of career choice
- To help students understand that their current interests can lead to employment in the future
- To give students several options to consider when deciding on a career

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Lesson Preparation:

On the board, write: "What do you want to be when you grow up?" Facilitate class discussion.

Lesson:

Beginning of lesson (about 5-10 minutes)

Begin the lesson by asking the question written on the board. Then ask:

"How many times have adults asked you that question?" Briefly describe to class why this question is so important. You can ask students for feedback as well.

Have students independently complete the Journeys to Jobs Pre/Post test on page 9.

Lesson (Either 12 stories from "Journeys to Jobs" or proceed to Kuder Galaxy website for assigned activities)

Last 5-10 minutes is a summary and wrap-up of what was covered/learned in the lessons.

So, essentially, the first 5 minutes should be an introduction and the last 5 minutes should be a conclusion.

Journeys to Jobs, Lesson 1: Part A (page 146-149 in book)

This lesson shows children the journey 12 friends take to reach their final career goals. Various vocations are highlighted along the way. Students realize that careers are the reflection of a person's talents and interests.

Goals:

- To introduce the concept of career choice
- To help students understand that their current interests can lead to employment in the future
- To give students several options to consider when deciding on a career

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Materials Needed:

For the leader:

Copy of Journeys to Jobs (pgs. 15-72)
Board and marker or chalk

For the students:

Copy of "What is your Career Path?" (pg. 73)
Copy of Journeys to Jobs: Pre/Post Test pg. 9
Pencil
Colored Markers or Crayons
Paper
Individual character stories photocopied
Corresponding character worksheets photocopied

Lesson Preparation:

On the board, write: "What do you want to be when you grow up?"

Lesson:

Begin the lesson by asking the question written on the board. Then ask:
 “How many times have adults asked you that question?” Briefly describe to class why this question is so important. You can ask students for feedback as well.

Have students independently complete the Journeys to Jobs Pre/Post test on page 9.

Tell the students they are now going to listen to stories about 12 different people and how each person decided which job was right for him or her. Explain to students that finding the right fit for a job is not always easy.

Break students into groups of approximately 2. (There are 12 characters total) so that would involve 24 students on average.

Journeys to Jobs Stories will be reproduced for each of the 12 characters. Each small group of 2 will receive a different person’s character to read together as a short story (they will do this together in their group of 2). They will also receive two corresponding activities that go along with the character they receive. They will work together as a team on the activities they are asked to complete that correspond to their character.

Each dyad (group of 2) will then present (as in, briefly describe or summarize) their character and how he or she chose a specific career path. They will be limited to **1 minute** of description per team/dyad. *Tell students they should do a good job in describing their character because the class will be voting for the most interesting characters at the end of class (Secret ballot).

*As each group presents, Leader or group facilitator writes name of character and a few identifiers/descriptors on the board for that character (the character’s future jobs/interests/talents, etc.)

At the end of the class, students will vote (for who they believe was the most interesting character/ or who had jobs or interests that might match theirs.

Conclusion:

Give each student a copy of What is Your Career Path? Worksheet, a pencil, and crayons, or markers. Then say:

We learned a lot about interests and jobs in the stories about the 12 friends. Now, let’s see the future career paths each of you might have. Complete your activity page (then color your picture if time permits).

APPENDIX K

Lesson 2 Career Development Research

Objective: Students realize that career choice is not based on chance.

Goals:

- To help students understand decision making
- To encourage students to think about their interests and hobbies, their likes and dislikes
- To have students answer questions in written form

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Lesson Preparation: Coin for coin toss

Lesson:

Beginning of lesson (about 5-10 minutes)

Begin the lesson by saying: In Lesson 1, we learned about lots of career choices and about people who made those choices. It is best to have all the information we need before making a choice. When choosing a career, people usually start with information about themselves. One way to choose between two things is by flipping a coin. Heads will give me one choice, tails the other. Let's see if this would be a good way to choose a career. Raise your hand if you would like to volunteer. (Choose a volunteer).

Heads you will be a gardener and tails you will be an accountant, ok?

Flip the coin, if it lands on tails, you say:

It looks like you will be an accountant. Do you like numbers? (Wait for student answer). Would you like to work inside all day? (Wait for student answer).

Or, if it lands on heads, say:

It looks like you will be a gardener. Would you like to work outdoors all day? (Wait for student answer).

Note: Choose another student and another occupation (your choice) to illustrate this point a second time. Discuss with children how this is not the best way to choose a career and why.

Continue:

To decide which path to take, you need to decide what you like to do and what you do well. It may be too early to know exactly what you do well since we become better at things after practice.

Either Journeys to Jobs curriculum or Proceed to Kuder Galaxy website for assigned activities.

Last 5-10 minutes is a summary and wrap-up of what was covered/learned in the lessons.

So, essentially, the first 5 minutes should be an introduction and the last 5 minutes should be a conclusion.

Journeys to Jobs, Lesson 2: Decisions (page 153 in book)

This lesson helps students realize that career choice is not based on chance. The students write letters to their future selves. Reading them in the future will illustrate how activities and pastimes have changed as they matured.

Goals:

- To help students understand decision-making
- To encourage students to think about their interests and hobbies, their likes and dislikes
- To have students answer question in written form

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Materials Needed:

For the leader:

Coin Toss
Letter Writing Lesson

For the students:

Lined Paper
Pencil
Envelope
Copy of pg. 138 Interest Inventory for each student

Lesson:

Begin the lesson by reviewing (very briefly) what was covered in the last lesson. Provide the results of the vote. Which character/career path was liked the most? Discuss this career path briefly.

Coin Toss Lesson:

Begin the lesson by saying: In Lesson 1, we learned about lots of career choices and about people who made those choices. It is best to have all the information we need before making a choice. When choosing a career, people usually start with information about themselves. One way to choose between two things is by flipping a coin. Heads will give me one choice, tails the other. Let's see if this would be a good way to choose a career. Raise your hand if you would like to volunteer. (Choose a volunteer).

Heads you will be a gardener and tails you will be an accountant, ok?

Flip the coin, if it lands on tails, you say:

It looks like you will be an accountant. Do you like numbers? (Wait for student answer).
Would you like to work inside all day? (Wait for student answer).

Or, if it lands on heads, say:

It looks like you will be a gardener. Would you like to work outdoors all day? (Wait for student answer).

Note: Choose another student and another occupation (your choice) to illustrate this point a second time. Discuss with children how this is not the best way to choose a career and why.

Continue:

To decide which path to take, you need to decide what you like to do and what you do well. It may be too early to know exactly what you do well since we become better at things after practice. Tell students that they will now take a brief interest inventory (handout pg. 138) to help them to start thinking about their interests.

Last class, we learned about the interests of other people in the stories. Today, we will find out more about our own interests. We will make a t-chart about our likes and dislikes and turn that into a letter to yourself. Listen to the letter written by a 5 year old boy named James.

Dear James,

I am 5 years old now. It is TODAY'S DATE. I like sharks and whales. I like castles and I like to play knights and use plastic swords. I like to write cards and draw pictures on them. I like to play with my sister and dance.

I don't like to sit for long periods of time. I don't like to play indoors.

*Sincerely,
James*

After reading James' letter aloud, make a T-chart labeled Likes/Dislikes and illustrate this on the board using the letter from James as an example.

Tell students that they may start by creating a t-chart on a sheet of paper that they will then turn into a letter to themselves on a separate sheet of paper.

Give each student two pieces of lined paper, a pencil, and an envelope. Say:

It is your turn to write a letter to yourself. Date it with today's date. You may take several minutes to think of all the things you like to do. I will walk around the room and help you with spelling and some ideas if you get stuck. When I have looked over your letter, you may seal it in your envelope and address it to your future self. Take it home and ask a parent to help you put it in a safe place. It will be fun to open the envelope in the future to see if you still like the same things. Do you think you will have the same interests five years from now? Ten years? Did the adults in the story like the same things after they grew up? It will be fun for you to see if your interests change as you grow.

For students in fourth and fifth grade, the letters should be at least 2 paragraphs comparing and contrasting their likes and dislikes.

Conclusion:

Have the students take their completed letters home.

Review and recap lesson. Remind students to try to be present for the lessons.

APPENDIX L

Lesson 3 Career Development Research

Objective: Students should realize that character traits such as honesty, trustworthiness, and getting along with others can help build friendships in elementary school. Those same traits are respected in the work force. A *Student of the Month* can become an *Employee of the Month* by continuing to practice those traits.

Goals:

- To help students understand that a good worker is honest, hardworking, and trustworthy
- To help students develop those character traits now in preparation for future employment
- To help students understand that getting along with friends now can help them get along with coworkers in the future

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Lesson Preparation:

Begin by saying:

It is important to choose a job that fits your personality and interests, because you will work at it for most of your life. An employer is the person or company that gives you the job. What do you think an employer is looking for when he or she hires someone? (Accept all responses).

Yes, the person would have to have the right training and would have to know how to do the job. The employer may hire a person because he or she believes the person has the ability to learn the skills on the job. This is called on-the-job training. Your character is important in getting and keeping a job. You must be honest and trustworthy. If you were an employer or boss, would you hire people who would steal from you? Lie about things at work? Not get

along with co-workers? You would hire people with good character traits. Let's list some of those traits on the board:

Write the following words on the board.

Honest, trustworthy, dependable, responsible, friendly

Ask the students for more suggestions. Add them to the list.

Lesson (Either lesson plan #3 from "Journeys to Jobs" or proceed to Kuder Galaxy website for assigned activities and worksheets)

Last 5-10 minutes is a summary and wrap-up of what was covered/learned in the lessons.

So, essentially, the first 5 minutes should be an introduction and the last 5 minutes should be a conclusion.

Journeys to Jobs, Lesson 3: Employee of the Month (page 155 in book)

Character traits such as honesty, trustworthiness, and getting along with others can help build friendships in elementary school. Those same traits are respected in the work force. A *Student of the Month* can become an *Employee of the Month* by continuing to practice those traits.

Goals:

- To help students understand that a good worker is honest, hardworking, and trustworthy
- To help students develop those character traits now in preparation for future employment
- To help students understand that getting along with friends now can help them get along with coworkers in the future

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Materials Needed:

For the leader:

Board and Marker or Chalk

For the students:

Construction Paper
Art Paper
Crayons or markers
Scissors
Glue Stick

Lesson Preparation:

Gather the needed materials

Lesson:

Begin by saying:

It is important to choose a job that fits your personality and interests, because you will work at it for most of your life. An employer is the person or company that gives you the job. What do you think an employer is looking for when he or she hires someone? (Accept all responses).

Yes, the person would have to have the right training and would have to know how to do the job. The employer may hire a person because he or she believes the person has the ability to learn the skills on the job. This is called on-the-job training. Your character is important in getting and keeping a job. You must be honest and trustworthy. If you were an employer or boss, would you hire people who would steal from you? Lie about things at work? Not get along with co-workers? You would hire people with good character traits. Let's list some of those traits on the board:

Write the following words on the board.

Honest, trustworthy, dependable, responsible, friendly

Ask the students for more suggestions. Add them to the list.

Continue by passing out a copy of the following story to each student (Copies provided):

Once there was a school that had a fun carnival. All the kids came to play the games and eat the food. To get into the carnival, each child had to buy a wristband. The adult at each game marked an X on the band. After 10 X marks, the child had to buy another band to play more games. This carnival raised money for supplies for the school. Teachers and parents worked hard and the children had fun.

Chloe and Rachel were having fun. They went to the cupcake walk several times. They bounced in the big, bouncy castle. They rode the little train. When they had 10 X marks, Chloe told Rachel to scrunch up her band so nobody could see that she already had 10

marks. Rachel told Chloe that would not be honest. Chloe decided to do it anyway. She scrunched up her wristband and told the adult at the next game that she only had eight marks and could ride two more times. Rachel walked away.

Discussion Questions (Pass out a copy of these questions for students to answer individually – these questions will be attached to above story):

1. Why is it important to be honest with people?
2. Could you practice honesty now with your friends, family, and teacher?
3. Do you think practicing honesty now could help you in future jobs?
4. Whom would your teacher send back to an empty classroom to retrieve something on his or her desk? What qualities would that person need to have? (Someone he or she trusted)
5. How do we build trust? (By being honest every day)
6. Have you seen a plaque at a business with a picture of the Employee of the Month?
7. Does your class or our school have a Student of the Month?
8. What traits would an Employee or Student of the Month have? Write those traits on the “Cupcakes Worksheet”?

Conclusion:

Option A: Give each student art paper, construction paper, scissors, a glue stick, and crayons or markers. Then say:

Draw a picture of yourself and glue the picture to the art paper. Under the picture, list the qualities you have or are working to develop in order to be a good student now and a good employee in the future. Use the brown construction paper to make a frame. Cut out the frame and glue your picture to it. Display your plaque where you can be reminded of your character traits.

Option B: Give each child a copy of the worksheet on pg. 134 and 135: A Well Dressed Person. Have students list the qualities they have or are working to develop in order to be a good student now and a good employee in the future. Discuss how those character traits are important now and in the future.

*Review and recap lesson. Remind students to try to be present for the lessons.

APPENDIX M

Lesson 4 Career Development Research

Lesson 4: Homework (page 157 in book)

Objective: This lesson reinforces the concept that schoolwork is work for students. It is important for students, like adults, to keep track of work they have completed. The included homework chart, similar to an adult worker's monthly report, will help students take responsibility for recording their work.

Goals:

- To help students understand their job now is school.
- To encourage students to take responsibility for their own work.
- To help students form good study habits.

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Lesson:

Begin by saying:

It is fun to think about becoming an artist or a construction worker, a teacher, or a nurse. There are things we must do to prepare for any future career. For most jobs, we need to know some math, speak and write so others can understand us, and get along with others. When you do a great job in fourth grade, you become a great fifth grader. Each grade builds on the next. When adults in your family go to work each morning, they do their job. Your job is _____ grade. You are responsible to learn the things taught everyday in school. You can do many things right now to prepare for future employment.

Homework, for example, is your work. It is not your parents' work. Some parents help students with homework. It is good to have an adult around when you need help, but the responsibility is yours. Many workers must write reports to show their work. It is like and

end-of-the-week report your mom or dad may have to turn in to the boss. It is a way to track your progress and make sure you are doing your homework.

Lots of adults work at jobs to make money to pay for things they need. They also work to get a feeling of accomplishment. You don't make money for going to school, but you get that good feeling that you have done your best work. Every time you place a checkmark on the chart, you get that feeling of accomplishment. Homework helps you remember the concepts taught that week in school. It is a great way for you to keep track of your progress.

(Either lesson plan #4 from "Journeys to Jobs" or proceed to Kuder Galaxy website for assigned activities and worksheets)

Review and Reflect on previous lessons:

Say: Who can tell me something they have learned over the past several weeks? We talked about lots of things regarding careers. (Allow for a few student examples).

Recap by saying:

1. We discussed how choosing a career is not based on chance and the decisions we make today affect our future.
2. We talked about how certain character traits such as honesty, trustworthiness, and getting along are valuable to building friendships and are also important in the workplace.
3. We mentioned how the responsibilities of homework allow us to have a sense of accomplishment and prepare us for being a reliable and responsible employee.
4. We learned about different types of career clusters and various occupations.

CCDS POST-TEST:

****Leave about 5-7 minutes at the end of the lesson to give students the CCDS and demographic post-test. Tell them it is **VERY** important that they complete **ALL** questions and take their time if they want to earn the final star today.

Remind them that if they did not miss any lessons and received all four stars, they will be rewarded with a special prize next week!

Journeys to Jobs, Lesson 4: Homework (page 157 in book)

Objective: This lesson reinforces the concept that schoolwork is work for students. It is important for students, like adults, to keep track of work they have completed. The included homework chart, similar to an adult worker's monthly report, will help students take responsibility for recording their work.

Goals:

- To help students understand their job now is school.
- To encourage students to take responsibility for their own work.
- To help students form good study habits.

ASCA Academic Development Standards:

Standard A: Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the lifespan.

Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial post secondary options, including college.

Standard C: Students will understand the relationship of academics to the world of work and to life at home and in the community.

ASCA Career Development Standards:

Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

Materials Needed:

Copy of *Homework Chart*, pg. 158 (students take this home with them)

Career Bingo cards

Career Call Cards

Bingo markers

Copy of *Journeys to Jobs: Pre/Post Test* pg. 9 – Return student responses and compare. Ask if there is anything they would like to add to what they originally wrote 4 weeks ago. Have them insert in anything they wish to add.

Pencil

For the leader:

Copy of *Homework Chart*, pg. 158 (students take this home with them)

Career Bingo cards

Career Call Cards

Bingo markers

Copies of *Journeys to Jobs: Pre/Post Test* pg. 9

For the students:

Copy of *Homework Chart*, pg. 158 (students take this home with them)

Career Bingo cards

Bingo markers

Copy of *Journeys to Jobs: Pre/Post Test* pg. 9

Pencil

Lesson Preparation:

Gather the needed materials

Lesson:

Begin by saying:

It is fun to think about becoming an artist or a construction worker, a teacher, or a nurse. There are things we must do to prepare for any future career. For most jobs, we need to know some math, speak and write so others can understand us, and get along with others. When you do a great job in fourth grade, you become a great fifth grader. Each grade builds on the next. When adults in your family go to work each morning, they do their job. Your job is _____ grade. You are responsible to learn the things taught everyday in school. You can do many things right now to prepare for future employment.

Homework, for example, is your work. It is not your parents' work. Some parents help students with homework. It is good to have an adult around when you need help, but the responsibility is yours. Many workers must write reports to show their work. I have a special *Homework Chart* for you. It is like an end-of-the-week report your mom or dad may have to turn in to the boss. It is a way to track your progress and make sure you are doing your homework.

Give each child a *Homework Chart* and say:

Lots of adults work at jobs to make money to pay for things they need. They also work to get a feeling of accomplishment. You don't make money for going to school, but you get that good feeling that you have done your best work. Every time you place a checkmark on the chart, you get that feeling of accomplishment. Homework helps you remember the concepts taught that week in school. It is a great way for you to keep track of your progress.

Review and Reflect on previous lessons:

Say: Who can tell me something they have learned over the past several weeks? We talked about lots of things regarding careers. (Allow for a few student examples).

Recap by saying:

1. We discussed how choosing a career is not based on chance and the decisions we make today affect our future.
2. We talked about how certain character traits such as honesty, trustworthiness, and getting along are valuable to building friendships and are also important in the workplace.
3. We mentioned how the responsibilities of homework allow us to have a sense of accomplishment and prepare us for being a reliable and responsible employee.
4. We learned about different types of careers through 12 friends and the paths that they took in order to decide on a final career choice based on their talents and interests. We voted on what career path we liked the most and the winner for this class was _____.

Now, let's have some fun and play Career Bingo. The occupations on the Bingo cards are based on the careers that some of the 12 friends considered in their career journeys. Think about some of the careers you might enjoy doing in the future as we play.

CCDS POST-TEST:

****Leave about 5-7 minutes at the end of the lesson to give students the CCDS and demographic post-test. Tell them it is very important that they complete ALL questions and take their time if they want to earn the final star today.

Remind them that if they did not miss any lessons and received all four stars, they will be rewarded with a special prize next week!

JOURNEYS TO JOBS PRE-POST TEST

Pass out/return their Journeys to Jobs Pre-Post test and ask them to take a look at it and decide if there is anything they would like to add to their descriptions now that they learned some new things about careers over the past several weeks.

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Education

The Pennsylvania State University, University Park, PA
Doctor of Philosophy, Counselor Education and Supervision (School Counseling emphasis)
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The University of Scranton, Scranton, PA
Master of Science in School Counseling, May 2001

Bloomsburg University of Pennsylvania, Bloomsburg, PA
Bachelor of Arts, Psychology, Magna Cum Laude, May 1999
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Related Experience

Elementary School Counselor

- Berwick Area School District, Berwick, PA, August 2004 - present
- Pocono Mountain School District, Swiftwater, PA, August 2001 - June 2004

Editorial Assistant, *Journal of Counseling & Development* (Graduate Assistantship)

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Presentations

Cerrito, J. A. & Trusty, J. G. (2013, March). *The Effects of a Web-Based Career Intervention Program on Elementary School Students' Vocational Development*. Workshop presented at the meeting of the American Counseling Association Conference, Cincinnati, OH.

Hannon, M., Cerrito, J.A., & Nichols, L. M. (2011, October). *Clinical and Field Site Supervision Collaboration: Maximizing the Current and Future Success of Counselor Trainees*. Workshop presented at the meeting of the Association for Counselor Education and Supervision Conference, Nashville, TN.

Trusty, J. G., Niles, S. G., & Cerrito, J. A. (2013, March). *High School Students' Career Planning: Fostering School Engagement and Hope for the Future*. Workshop presented at the meeting of the American Counseling Association Conference, Cincinnati, OH.